DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1991

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1991

THURSDAY, FEBRUARY 8, 1990.

FISCAL YEAR 1991 DEFENSE POSTURE

WITNESSES

HON. RICHARD B. CHENEY, SECRETARY, DEPARTMENT OF DEFENSE
GENERAL COLIN L. POWELL, U.S. ARMY, CHAIRMAN, JOINT CHIEFS OF STAFF

INTRODUCTION

Mr. MURTHA. The committee will come to order.

Today the committee welcomes the Secretary of Defense, the Honorable Richard B. Cheney and the Chairman of the Joint Chiefs of Staff, General Colin L. Powell.

The committee is considering budget authority requests of $287.3 billion for fiscal year 1991. The Congress will have a difficult time in appropriating this entire amount for fiscal year 1991 in light of competing budget priorities.

Mr. Secretary and General Powell, as you know, there are many problems facing the United States and the future funding levels for defense programs are dependent on the solution to those problems.

Mr. Secretary, General Powell, we want to welcome both of you and I want to personally compliment both of you on the way you handled the Panama situation.

I went to Panama on the 27th of December right after you had been there, Mr. Secretary. General Vuono was there also and I think we all found the same thing, the troops were highly trained, ready, and had the equipment they needed.

One young sergeant said to me, "My last day of training was my first day of combat." They were knowledgeable about the operation and comfortable about what they were doing. They were tense and nervous, but they felt good about what they were doing in liberating Panama.

As a matter of fact, I visited the Air Force hospital in Texas soon after that and there were three young people still there. Those young people, one had lost a leg, one was paralyzed from the waist down and one's leg was mangled. They knew exactly what they were doing and were very responsive and just praised the action they had taken and felt very good about the fact that they had made democracy available to the people in Panama.

I told them I was chairman of the Election Commission and that I went there and came back and told the President that that was

an unfair election, that the President said it was an unfair election, and that Carter said it was an unfair election. And that it didn't mean a thing until you guys went there and then it became a fair election.

We appreciate what you did.

Yesterday before the full Appropriations Committee, Mr. Darman and the Secretary of the Treasury came to testify. Chairman Whitten made a presentation to me and it has some symbolism.

He presented me with a Viking axe, and I am afraid that is the mood of what we are going to have to put up with the rest of this year because from what I have been hearing from the Members themselves, Republicans and Democrats, they expect a peace dividend, and the public is certainly hearing more and more about it. I talked to Mr. Darman about his problems, and he even used the words peace dividend.

So I know that this committee will make some adjustments to your recommendation.

We welcome you to the committee and if you would summarize your statement, we will put your full statements in the record and.

[CLERK'S NOTE.—The Annual Report to the Congress by the Secretary of Defense is printed at the end of this hearing. See page 117.]

STATEMENT OF MR. MCDADE

Mr. MCDADE. Mr. Secretary and General Powell, I want to welcome both of you here and compliment you on the job that you are doing and congratulate you on the relationship that you have established with this committee and other committees on the Hill. I think it is unprecedented.

I share very definitely the concerns just raised by the Chairman as we try to assemble the budget for this fiscal year.

I want to take a second to comment on the introduction of this buzz word this year, the peace dividend that we are hearing about so much. Just about every place you go up here, you get the impression we can take $10 billion more, we can take $15 billion, no problem, take $80 billion more out of defense and there won't be a problem. A lot of people are convinced that that is an easy thing to do.

So I want to set on the record what it ignores, that is to say, over the past five years, the Department has been on a downward slope every one of those years. You have lost after inflation 14 percent of your buying power since 1985 and this year's submission would make that an additional 16 percent.

We don't hear a lot about what that translates to, so I want to give specifics of what has happened in the past three budgets sent up here.

Active military will be cut by almost 100,000 troops. Under the Administration's proposal, we are eliminating two Army divisions and three Air Force tactical fighter wings.

One aircraft carrier battle group is gone and two battleship groups.

Eighty-six military bases are on the chopping block under the approved base closure list.

Thirty-five major weapon systems are to be canceled, including the Army's top two, the M–1 and the Apache, the Air Force's premier air combat and deep-strike fighter, the F–15, the cream of Naval aviation when you look at the F–14 and the A–6 and the Marine Corps' V–2 Osprey; all of that in three years' time, not a lot of time, not smoke and mirrors, hard cuts already in place.

As you look at what you have sent us for the next five years, you are going to have to squeeze a lot more to get over $150 billion out of your pending five-year program to track with the negative two percent glide path that you have established.

I mention all this because I think it will be critical for all of us to be specific, to try to educate the average Member, perhaps, who walks around saying, "Ten, twelve, fifteen billion dollars, no problem. We can do it."

We have got to start getting the cautionary notes on the record and out so that they can understand what you have done and what you propose to do. Also, to avoid what you said, General, I think it was, in front of the Senate Armed Services Committee, "We must not shatter the armed forces. We must not make them a shadow of strength."

I want to join in what the Chairman said. Those axes are out all over the Hill.

We have our work cut out for us and I view it as an educational exercise as we try to make this transition in this rapidly changing world.

We look forward to working with you.

Thank you, Mr. Chairman.

Mr. MURTHA. What we would like to do, if this is satisfactory with you, Mr. Secretary, unless any of the Members object to this, we will postpone the closed part of the hearing today until some later date. Things are changing so dramatically that we would like to have you back up here like we did last year, maybe in a couple of months right before mark-up in order to get some insights into what is going on and some intelligence about it.

Secretary CHENEY. We would be happy to do that any time, Mr. Chairman.

We are certainly at the beckoning call of the committee.

Mr. MURTHA. We will go through the open hearing today and postpone the closed hearing until later on.

We can go as long as any Member wants.

Let me say this, too, I forgot to mention this. The other day I retired from the Marine Corps Reserve and we were over there and Jamie Whitten says, "Murtha, you told the Secretary to cut people out and you are the first guy they cut out."

Mr. Secretary please proceed.

SUMMARY STATEMENT OF SECRETARY CHENEY

Secretary CHENEY. Thank you, Mr. Chairman.

I am delighted to have the opportunity to be back before the Defense Appropriations Subcommittee in the House.

I think the working relationship that I have enjoyed over my tenure as Secretary with this committee has been outstanding. I have gotten first-class advice and assistance whenever we have

needed it and we have had an excellent working relationship and I look forward to continuing that same kind of effort.

I know that many of you are familiar with the basic testimony that the chairman and I have presented elsewhere, so we would kind of like to shorten it down.

We have prepared testimony that we will submit for the record, and then try to briefly run through what I think are some of the key elements that have affected our thinking as we have tried to put together the budget for 1991. Then I will call on General Powell for some statements and the perspective of the Chairman of the Joint Chiefs and give you a quick summary of some of the numbers that are in the budget and try to keep it short.

CHANGES IN EASTERN EUROPE

Mr. Chairman and members of the committee, I think if there is a message that I bring this morning, it is that the world is clearly undergoing some phenomenal change in the last year since we last marked up the Defense Appropriations bill and we recognize that.

Some have suggested that we have our heads in the sand in the DOD and are not responding to the changes we see in the world. I would argue that the budget we present reflects our best judgment of the ways in which we can alter our force posture in order to take advantage of recent developments.

We have seen some pretty fundamental changes in Eastern Europe.

All of the Warsaw Pact leaders who were there a year ago are gone now with the exception of Mr. Gorbachev, and he has just declared for a multi-party system in the Soviet Union.

Those changes have significant military ramifications, the bottom line of which is that the Warsaw Pact clearly doesn't represent the kind of military threat to NATO that it once did, that if anything, the likelihood of Warsaw Pact attack against NATO is lower than at any time in the last 40 years.

Even if there were to be such an assault by the Soviets alone, clearly they have to be deeply concerned about rear areas that are not secured and, therefore, the threat to NATO, we think, can be changed in significant ways in terms of our estimates of what the problems are.

CHANGES IN THE SOVIET UNION

Within the Soviet Union, we have also seen some fundamental changes, the foremost of which, in my opinion, has been their willingness to allow Eastern Europe to pursue a course of self-determination and rather than intervene with tanks, they have allowed Eastern Europe to pursue an independent course.

We see new governments being formed, elections scheduled, and have every reason to expect that a few years down the road we may see democratically-elected, non-communist governments in each of those countries and with a significantly reduced or even nonexistent Soviet military presence.

SOVIET MILITARY CAPABILITY

Having said that, I think it is important for us, though, to remember that there are reasons for caution. There are still fundamental problems out there when we assess Soviet military capability.

While we do see the beginnings of reductions in their defense budget, the changes and restructuring of Soviet military capability appears to be limited to conventional forces and has yet to have any impact upon their strategic nuclear forces.

You will find that the package the President submitted to the Congress this year takes into account those changes in conventional forces in the Soviet Union, but takes into account the fact that the Soviets retain the capacity to destroy us, that they have an enormously impressive capability in terms of their strategic nuclear forces and they continue to spend large sums of money to modernize those forces.

WESTERN TECHNOLOGY

Even as we look at the changes in the Soviet Union, there is one area that gives me special concern with respect to the military, and that is that I believe their access to Western technology in the years ahead will improve; that is to say, that to the extent that one of our major strategic assets over the years has been our technological advantage, that when you contemplate the opening to the West, the prospects for enhanced trade between East and West, Mr. Gorbachev's style of leadership, the fact that our European allies and many in the U.S. are suggesting now we can relax the COCOM restriction that have safeguarded transfer of military relevant technology to the East.

All of those developments I think will leave the Soviets in a position where they will find it easier to acquire that kind of technology.

So to the extent that there has been a gap between their technology and ours, I think that gap may well narrow, especially in the military area.

Politically inside the Soviet Union, we have witnessed just in the last 72 hours the convening of the Central Committee of the Communist Party and what may turn out to be a watershed event. There is also continuing cause for concern because we don't know what the future has in store for the current political leadership in the Soviet Union.

Many of the positive developments of recent years have clearly been generated directly by Mr. Gorbachev.

In other cases, he has tolerated major changes such as those in Eastern Europe and handled them differently than his predecessors did, but I think caution is in order before we build a national security strategy of our own based upon assumptions about what fate may have in store for one man who is currently the leader of the Soviet Union.

ARMS CONTROL AGREEMENTS

What all this means from the standpoint of the Administration is that we are aggressively pursuing arms control policies across

the broad spectrum of armaments. Secretary Baker is in Moscow this morning negotiating with Foreign Minister Shevardnadze talking about START and conventional force levels in Europe. The President last May gave the arms control effort a major push with his NATO proposals. Last week in his State of the Union speech, he gave it another push and has provided, I think, worldwide leadership on this important issue.

We are hopeful that in 1990 we will be able to conclude arms control agreements both on strategic and conventional armaments. But we don't have them yet, and the fact is that in terms of trying to shape our own force levels and posture and make decisions about major weapon systems, there are still a lot of unknowns out there tied to the arms control process.

We don't yet have final decisions, negotiated arrangements on troop levels in Europe, on equipment levels in Europe, on the allocation of those reductions that we anticipate within the alliance or what kind of strategy we want to pursue in NATO once we get to the post-CFE environment.

With respect to START, we have yet to make a decision on exactly how we want to posture our own strategic forces, what the mix ought to be between Trident submarines, for example, and land-based missile forces. We are negotiating on air-launched cruise missiles, accounting rules, et cetera. We are negotiating on sea-launched cruise missiles, non-deployed missiles, a whole range of issues as yet unresolved. Hopefully, we will know a lot more about that before the end of the year. At the present time, those are still outstanding questions.

NEW MILITARY STRATEGY

One final point. There is a lot of talk this year about the need for a new strategy, that we need to somehow fundamentally reorient our thinking.

Obviously, given the changes that we see in the world, there is a requirement that we look anew at what we do, but I think it is important for us to remember what the elements of our strategy have been for the last 40 years, that we have relied very heavily on our ability to deter an attack against the United States-required substantial and survivable nuclear forces.

We have relied upon a system of alliances in Europe and Japan to safeguard our security. We have had our forces forward deployed. We have maintained the doctrine of flexible response, the ability to escalate from conventional up through theater and strategic forces. We have maintained maritime superiority and we have maintained the capacity to deal with contingencies around the world, for example, Panama and the Persian Gulf.

When I look at those items of our basic approach for the last 40 years, I don't see any that I am prepared to give up. I think we are still going to require our capacity to deter a nuclear attack against the United States. We are still going to want to rely upon our system of alliances with Europe and Japan. I think forward deployments will continue to be important, although at lower levels than in the past. Maritime superiority is going to continue to be important. Obviously, we are going to have to deal with contingencies.

So in the broad scheme of things, in terms of what will be required of our military forces in the years ahead, while we welcome and want to take advantage of the fundamental change that we see in the world, especially in Europe and within the Soviet Union, there is an enduring need for a significant U.S. military capability to safeguard our interests, and the budget that we are presenting to you for fiscal year 1991 we think does that.

Mr. Chairman, at this point, I would like to call on General Powell.

Mr. MURTHA. General Powell.

SUMMARY STATEMENT OF GENERAL POWELL

General POWELL. It is a pleasure for me to make my first appearance before this committee, although I don't see any strangers before me.

I have had occasion to work with every Member here at one time or another and I look forward to close and continuing associations of the kind Mr. McDade referred to a few moments ago.

FISCAL YEAR 1991 BUDGET REQUEST

The Joint Chiefs of Staff and the Commanders in Chief of the Unified Specified Commands and I worked very closely with Secretary Cheney as he put the fiscal year 1991 budget together.

As he said, we don't have our head in the sand at the Pentagon. This applies especially to the senior military officials of the DOD. We recognize the budget environment we are in. We recognize that we are in a vastly new geopolitical environment and we are prepared to deal with that.

We recognize that the days of real growth are gone, that we are now in the process of reshaping and downsizing and restructuring the armed forces of the United States, and we welcome the hopeful environment, the environment of peace that we are looking into, in the near future, and we want to adjust properly to that new environment.

But in doing that, in going through this hopeful time of change, there are certain enduring truths and realities that can't be overlooked.

Perhaps the foremost of these realities is that the Soviet Union will remain a European military power, restructured and less offensive, but always with the ability to put the United States and its interests at military risk.

This is especially the case with respect to strategic nuclear forces. We should not forget that. We should not forget that we have interests around the world and not just in Europe.

We are a superpower with worldwide interests. We are the leader. We have alliances not only in the Atlantic, but also in the Pacific.

We are the hope of the Third World, and to continue leading in the Atlantic and Pacific and continue providing hope to the Third World, I think we must remain militarily strong as well as strong in all other elements of national power.

So the world may look a little less threatening, but it continues to have within it instability and uncertainty and we have to plan for that instability and that uncertainty.

JOINT MILITARY NET ASSESSMENT

Mr. Chairman, the Secretary of Defense owes to the Congress a Joint Military Net Assessment.

The Joint Staff has prepared that Assessment.

Yesterday, the Joint Chiefs of Staff signed off on it and it will be sent to the Secretary. I expect that in the near future the Secretary will provide it to the Congress.

I have summarized it in my prepared statement, but I will say a few words about it.

The greatest challenge in performing that net assessment was assessing the direction, scope, pace and momentum of changes in Soviet military strength.

On the one hand, we see convincing evidence that Gorbachev intends to carry out his plans for unilateral cuts for reducing the more threatening aspects of his forces and for achieving arms control breakthroughs.

It is also clear that he intends to take every opportunity to make virtue of necessity, thus, even as Soviet unilateral troop cuts in Eastern Europe proceed apace, much of the residual equipment is serving to modernize remaining units.

While forces are being withdrawn into the Soviet Union, a process which may accelerate in the months ahead, the long-term status of these forces is still unclear and there can be no doubt that Soviet military planners will make a convincing case to keep a sizeble reserve and a credible mobilization capability.

Moreover, despite the promise of a START agreement in 1990, the Soviets' stable, long-term strategic nuclear modernization programs have produced a daunting nuclear force posture and will continue to do so.

So we can expect that they will continue to upgrade their ICBMs, SSBNs, and their bombers throughout the coming decade and it seems to me, Mr. Chairman, that we have to do the same thing.

So in the President's budget, we have presented a strong case for continuing to improve our strategic nuclear modernization program and the Secretary and I are prepared, I am sure, to discuss that with the committee.

CONVENTIONAL FORCES IN EUROPE

With respect to conventional forces in Europe, the non-Soviet Warsaw Pact nations currently furnish 40 percent of the forces in the Central region and 50 percent of their forces in the Southern region.

Thus, considering the new political orientation of the non-Soviet Warsaw Pact nations, our judgments clearly accept a significant reduction in Pact capabilities as well as a dramatic diminution in the likelihood of East-West hostilities in Europe.

Taking into account current political upheaval, as well as Soviet unilateral reductions, there will continue to be conventional force asymmetries for some time to come.

As you look at other parts of the world, in the Pacific, it is unlikely the Soviets would initiate any actions which would threaten our basic interests and we believe that in terms of our net assessment, we have the wherewithal to protect our interests in the Pacific against whatever residual threat level remains on the part of the Soviet Union.

In Korea, although there have been signs of a desire to talk, the dialogue between Seoul and Pyongyong has done nothing to convince us that the North Koreans want to change the fundamental confrontational relationship that has existed there for many years.

Our assessment is that the U.S.-Republic of Korea security relationship that exists now will continue to deter the likelihood of conflict on the Korean Peninsula.

In other areas of the world, we have interests, but we believe we have a force structure that can deal with any contingency that might arise such as arose in Panama with which we were able to deal rather promptly.

NEW MILITARY STRATEGY

As I mentioned earlier, this is covered in greater detail in my prepared statement and when you get our Joint Military Net Assessment, you will find, I believe, that it is rather thorough.

Does this all meet the strategy? I think the Secretary touched on this. Whether you call it a new strategy, an old strategy, or revised strategy, it has the same elements, deterrent strength is the key to peace.

We should never let any adversary doubt our peaceful intention, but at the same time, we should never let any adversary doubt our willingness to bear arms in our defense and never let any adversary question the strength and readiness of our arms.

We must also remain faithful to our friends and allies who have collectively stood with us for 40 years.

To break that faith, to unilaterally say all is well and come home, would surely, it seems to me, put our gains at risk and fail to secure the promise of the future, and we must always be prepared for the crisis we weren't expecting and the contingency that no one had planned for so the armed forces of the United States can always respond to that kind of situation.

REDUCTION IN FORCE

The bottom line for the military leaders of the Department is that we will be cutting the size of our forces, getting smaller, and we should do so.

The Constitution says raise and support armies, meaning as they are needed, and respond to the threat.

I think we can do that. We can get smaller, we can do so in a prudent way without any additional risk to the Nation, so that within the area of strategic forces, we must modernize, not cut.

The Soviets are not cutting. They view those systems as their crown jewels and are modernizing them. Every leg of their triad is being modernized. No Soviet leader has said anything about cutting or perestroika with respect to their strategic modernization programs.

It is all within the context of the emerging START Treaty. Our strategic modernization programs are also within the context of the emerging START Treaty, and I urge your support for that program.

We must continue to be prepared to defend the forces in Europe and the Pacific, even at much lower levels.

We must maintain maritime superiority. We must have reinforcing and mobility forces so that we can go to an area of crisis or we can reinforce our positions in the Atlantic and Pacific if things don't go the way we are hoping they will.

Always we must have forces that can respond to contingencies.

SUMMARY

Finally, Mr. Chairman, I would like to close by saying the one thing we need most of all is a quality force consisting of quality people who are proud to serve in uniform and of whom the American people are proud.

It took us ten years to rebuild that after the budget decline of the seventies.

You all remember the hollow Army, hollow Navy, hollow Air Force, hollow Marine Corps.

I commanded hollow units when I was a Lieutenant Colonel and a Colonel.

I am now the Chairman of the Joint Chiefs of Staff and I am not going to preside, if there is anything I can do about it, over the return to that kind of hollowness.

The Secretary and I have had many conversations about this subject and the kind of force that we ultimately will have is a function of how much the American people are willing to pay for that force and the level of risk they wish to see associated with our force posture.

Whatever that dollar amount is, we will take the force down to match that number so that when we are at that new strength level, the strength level we are at will be a good force, a quality force, a trained force, a ready force, a force that can perform a mission and not just sit around painting rocks.

No more going back to the pre-World War II days of Scofield Barracks in "From Here to Eternity." It will be a good force, and that is the kind of force the American people deserve. We are in a year of transition in fiscal year 1991. I hope the Congress will allow the Secretary to manage this process in a very careful way so we don't break what we have together over the last ten years in terms of capable, proud, ready forces.

Mr. Chairman, I look forward to working with the committee and will yield back to the Secretary.

[The statement of General Powell follows:]

STATEMENT OF

GENERAL COLIN L. POWELL, USA

CHAIRMAN OF THE JOINT CHIEFS OF STAFF

BEFORE THE

SUBCOMMITTEE ON DEFENSE

HOUSE APPROPRIATIONS COMMITTEE

ON

DRAMATIC CHANGE AND ENDURING REALITIES

8 FEBRUARY 1990

INTRODUCTION

Mr. Chairman and members of the Committee, thank you for the opportunity to testify on America's military posture in connection with your hearings on President Bush's defense budget.

The images of the past 13 months or so have so captured the world's attention that it is almost a platitude for me to conclude that these are the most exciting times in forty years. The Free World has persevered, held out its values for all to see, kept its strength throughout calm and tumult, and now the prospects for the future are enticing, exhilarating, and may constitute a fundamental turning point in human history.

In some ways, I compare our current situation to the immediate post-World War II period. We and our allies had settled the balance of power in the world in a manner made possible by our tremendous systemic strength. But the more complex and difficult challenge lay ahead of us--how to manage the transition to peace and the peace itself. Some people assumed that such a resounding victory as we had achieved would automatically produce peace. Today we know that no proposition could be further from reality: there is no automaticity to peace whatsoever. Peace comes--and stays--when free people are strong and ready.

Today's domestic climate is not too dissimilar from the climate created by our overwhelming World War II victory. Some people are poised to make decisions calling for the precipitous dismantlement of the very strength that brought the prospects for peace. We know that this year, and for the next few years, we will engage in a great struggle to determine whether we will repeat failures of the past and cause this dismantlement or, having learned our lessons, continue to maintain the needed strength to avoid putting America at risk.

Our eyes are open. Indeed, to remain blind to the change in the world would be an egregious and unpardonable mistake. The Secretary and I know the Department will get fewer funds, we know the armed forces will be decreased in number and that the Department will shrink. We know also that the risk of making these changes is acceptable, that the nation cannot afford to do otherwise. But we must not shatter the armed forces. We must not make them a shadow of strength. We must not devastate what we have invested so much of our treasure to build during the past decade.

Secretary Cheney and I began our efforts with an eye to history, current events, and with a view to the future. But not with a view to dissolving America's strength. I took my present job in the hope that I could help shape our armed forces for the future challenge, not to demobilize them precipitously and weaken our position in the world. The Soviets have not made the mistake of equating withdrawal and restructuring with disarming, and neither should we.

MILITARY STRATEGY AND POSTURE

Our military strategy is designed to safeguard and promote enduring national interests--and it is working dramatically well. Those interests are unchanged by the volcano of events in the world:

The survival of the United States as a free and independent nation;

The continuance of a healthy and growing economy that provides opportunity for individual prosperity and a resource base for our national endeavors; and

The maintenance of vigorous alliance relationships that bolster forward defense of the United States, secure our allies, and collectively maintain peace with freedom in the world.

Basic Objectives

Two of our national defense policy's basic objectives are:

To deter military attack against the United States, its allies, and other important countries; and to ensure the defeat of such an attack should deterrence fail; and

To increase U.S. influence around the world, to further an atmosphere conducive to democratic progress, and to protect free commerce and ensure U.S. access to world markets, associated critical resources, the oceans, and Space.

These objectives remind us that America cannot choose between military security and economic security. The two are inextricably intertwined. On a smaller but similar scale, the peaceful trade and economic prosperity of a city is dependent on the vigilant presence of the local policeman as much as it is on the ebb and flow of the vitals of commerce. No city mayor would consider abolishing his police force because were he to do so, the city's peace would soon dissolve and disappear.

Military Posture

Our global military posture is designed to keep the peace. The presence and readiness of our armed forces, here and overseas, prevents small crises from becoming big ones, deters major hostilities, reassures allies, and provides for dealing with unforeseeable contingencies wherever they may arise.

We try to keep these armed forces balanced. Balanced in terms of the strategy we call upon them to implement, the possible enemies they may have to contend with, the technology we can provide them, and the dollars available to raise, maintain, provide for, and sustain them.

We try to keep them balanced also in the sense of quality people, superb training, a high state of readiness and a pride in service to the nation.

And, with all of the foregoing in mind, we try to keep them balanced in terms of how they are divided between the active and reserve components.

In the world environment of the present and the foreseeable future, a durable consensus on the amount of dollars needed to support these efforts and these forces is essential to keep risks at an acceptable level.

THE DRAMATICALLY CHANGING WORLD SCENE

We are witnessing today the long-term success of policies we put in motion over forty years ago. Mid-term success produced a vibrant, cohesive, and dynamic Western Europe out of the utter devastation of world war. Among those nations at the forefront in that resurgent Europe was a democratic West Germany. Implacable foes became the closest of allies, marking one of the most extraordinary transformations in history.

Today, the long-term effects of that success are breathtaking to watch--from the collapse of the Berlin Wall to the potential for the ultimate democratization of Eastern Europe. The systemic crisis of our principal adversary, the Soviet Union, is the immediate catalyst for this historic and dramatic change but we and our steadfast allies provided the chemistry to which the catalyst was applied.

Though the spellbinding changes in Europe rivet our attention, there is much more on the horizon as well. In Asia, Japan was our archenemy in December 1941 and for almost four bitter years thereafter. Today Japan is an economic and democratic goliath and one of our closest allies. Again, our policies and our strategy following the devastation of World War II brought this transformation about. The bilateral security relationship between the U.S. and Japan has been a principal ingredient in the chemistry that produced the changes sweeping the globe today.

The march toward democracy and freedom seems inexorable. In Africa and Asia, in Europe and in Latin America, the principles our founding fathers brilliantly encapsulated in our two most famous documents, the Declaration of Independence and the Constitution with its Bill of Rights, seem to be on the lips of a remarkable majority of the world's peoples. Our founding fathers would find no mystery in this, merely the confirmation of their fondest hopes and their firmest beliefs.

Soviet Military Power in Transition

To give credit where credit is due, a Soviet leader of considerable vision and daring has set the stage for much of this sweeping change. President Gorbachev has embarked on a difficult course to renovate and repair the Soviet system. It is a formidable task and we wish him well. But we know a part of that system he wishes to renovate and repair is the Soviet military establishment.

President Gorbachev has no intention of demobilizing the Soviet military. The four tenets of President Gorbachev's plan for his military are withdrawal, reductions, and--we must not forget--restructuring and modernization. The end result will not be a demobilized military but a smaller and more modern force. These Soviet intentions present the United States with both opportunities and challenges--opportunities to reposture and restructure as a longstanding threat recedes, and challenges to sustain the nation's military strength in an emerging security environment of enormous complexity.

Throughout this promising but turbulent transition from an era of singleminded pursuit of containment, to an age of proliferating threats, I, as the Commander-in-Chief's principal military advisor, must stay focussed on the continuing reality of an enormous Soviet military capability. I cannot afford to be distracted by Soviet charm or sudden openness or the present disarray in the Soviet economy--even as I hope and plan for the prospects of a genuine, irrevocable reversal in Soviet foreign policy and all the advantages that such an outcome would bring to the world.

Equally important, I must devote increasing attention to the plain and simple fact that we as a superpower have grave responsibilities in the world, and to the realization that America offers the greatest hope to those peoples still oppressed.

And as I focus on these world realities and set about helping the Secretary of Defense to restructure the armed forces, I will not put America at risk. I never want to return to that leisurely, comfortable "From Here to Eternity" attitude of the 1930s that helped invite global conflict to an unsuspecting world.

NET ASSESSMENT

That being said, however, I cannot imagine a more challenging environment in which to set about the task of reshaping America's armed forces.

Nowhere is the challenge greater than in assessing the direction, scope, pace and momentum of the changes in Soviet military strength. On the one hand, I see convincing evidence that President Gorbachev intends to carry through his plans for unilateral cuts, for reducing the more threatening aspects of his forces and for achieving arms control breakthroughs. Conversely, it is also clear that he intends to take every opportunity to make virtue of necessity.

Thus, even as Soviet unilateral troop cuts in Eastern Europe proceed apace, much of the residual equipment is serving to modernize remaining units. While forces are being withdrawn into the Soviet Union--a process which may well accelerate in the months ahead--their long term status is unknown. And there can be no doubt that Soviet military planners will make the case for a sizeable reserve and a credible mobilization capability. Moreover, despite the promise of a START agreement in 1990, the Soviets' stable, long term strategic modernization programs have produced a daunting nuclear force posture--and will continue to do so.

These and other ambiguities make capability comparisons especially difficult. Nevertheless, as directed, the Secretary of Defense will provide Members of Congress a Joint Military Net Assessment (JMNA). It is in the final stages of approval. Here I want to emphasize several points from that assessment.

As I noted, the Soviets have for some time been shaping their strategic nuclear modernization program to be compliant with future START treaty constraints. We can expect continual upgrading of ICBMs, SSBNs, and bombers throughout the coming decade. Such upgrading will make these systems increasingly accurate and place our forces at increasing risk. Soviet forces will also be more survivable--making ours less effective. Today, the Soviets have already deployed a significant number of their planned rail-based SS-24s and their road-mobile SS-25s. As you well know, we have yet to field a mobile missile with comparable capability. By the mid to late 90s Soviet mobile systems could comprise one-half of their total ICBM force. To continue to provide a credible deterrent, we also need mobile missiles, and systems such as the B-2 that are capable of holding at risk these Soviet mobile missiles.

The Soviets have also constructed an impressive system of strategic communications facilities and both hardened and mobile command posts. In addition, they have continued to modernize their treaty compliant Moscow ABM system consisting of radars and two classes of missiles. These improvements coupled with their robust air defense systems mean we will have to modernize our systems so they can reach potential targets with the assurance we require.

On balance, Soviet space programs are geared more toward warfighting than ours. Their systems are expected to continue to improve, but at potentially reduced rates. To complement their existing on-orbit space systems, the Soviets have the capability to place additional systems on orbit quite rapidly. Moreover, they have a credible capability to conduct ASAT operations. As you know, we are only now taking steps to realize similar capabilities. To ensure our access to space and to deny a haven in space to any enemy in time of crisis, we need the ASAT program that is under development. Although our space programs are generally oriented toward peacetime activities, initiatives are underway to improve our capabilities across a broad range of conflict. Specific improvements are being applied in the general areas of launch and satellite system performance, reconstitution and survivability, as well as in ground-based surveillance for space control.

In assessing conventional forces in Europe, we noted that Non-Soviet Warsaw Pact nations currently furnish 40% of the forces in the Central Region and 50% of those in the Southern Region. Thus, considering the new political orientation of the Non-Soviet Warsaw Pact nations, our judgments clearly accept a related reduction in Pact capabilities as well as a dramatic diminution in the likelihood of East-West hostilities. But, while taking into account current political upheaval, as well as Soviet unilateral reductions, we noted that considerable conventional force asymmetries remain and will for some time to come. During this process of restructuring, the Soviets have been using some of the equipment they have removed to make other units more capable and, although they have reduced tank production this year by about half, they continue to outproduce us. Production of new and more capable aircraft and ships continues at a vigorous pace. Equally important, the Soviets are producing equipment whose sophistication rivals our own.

As you know, our estimates of warning time in Europe are changing for the better and we expect further improvement as unilateral reductions are completed and as the non-Soviet members of the Warsaw Pact continue to go their separate ways. We also look toward CFE negotiations to codify reductions, withdrawals, and verification measures and, therefore, virtually assure a wholesale change in the entire European security picture. We are now engaged in a reassessment of warning time, planning factors, and other important variables, but significant unknowns exist. The salient question, in my view, is when will it be prudent to translate hopes, assumptions, and what appears to be an increasingly defensive military orientation, into solid planning factors. When that time arrives, I anticipate we will be able to make historic--and perhaps permanent--changes to the defense posture that has brought historic change to Europe.

In the Pacific, it is unlikely that the Soviets would initiate hostilities which threaten our interests. Much of Soviet attention will remain focused on their bilateral concerns with China. As a part of their general force reductions, the Soviets have begun to draw down land and air forces in Mongolia, throughout the Eastern TVD, and at Cam Ranh Bay. Additionally, the readiness of the Soviet Pacific Fleet will decline somewhat as older ships are retired. Similarly, their fleet out-of-area deployments will continue to decline. This said however, their naval capabilities will continue to pose a potential threat to U.S. security interests in the region.

On the Korean Peninsula, although there have been signs of a desire to talk, the dialogue thus far between Seoul and Pyongyang has done nothing to convince us that the North Koreans want to change the confrontational relationship. They continue to maintain formidable armed forces, but our assessment is that the U.S.-Republic of Korea security relationship will continue to deter aggression on the peninsula.

In other theaters we can continue to meet our requirements. I believe the recent operations in Panama ably demonstrate our capability to respond rapidly to crisis. But I am not overly optimistic

about Third World developments in general. Debt, poverty, fragile democracies and internecine struggles will continue to generate both turmoil and tragedy and thus challenges to U.S. interests. In particular, drug-trafficking, insurgency and terrorism will command ever increasing attention and resources. And the chilling facts are that in today's world, the proliferation of sophisticated weapons adds a new and unknown dimension to what were already vexing security problems.

The uncertainties imbedded in these and other assessments lead me to three fundamental conclusions. First, the Soviet Union will remain a military superpower. As such, Soviet armed forces will possess vast potential regardless of the increasingly benign stated intent of the Kremlin. And that potential will remain should intentions change.

Second, and relatedly, until the profound transformation in the Soviet system is firmly rooted in democratic institutions--and it most assuredly is not at present--we would court inordinately high risks if we made irrevocable changes to the foundation of our military strength. It is still too soon to make sweeping changes to strategy, force structure and posture, and modernization. There is simply too much risk in such precipitous change. Eastern Europe--and even the Soviet Union itself--may be changing at an incredible rate, but that is certainly no reason for NATO to do so. Instead, it is sound reason to move but to avoid haste. The Soviets are in the throes of a second revolution. Because of this, we are engaged in a hopeful but as yet uncertain transition to new international security relationships.

Third, other threats to American interests do not disappear because of a retrenched Soviet Union. The problems we are likely to confront in the rest of the world in the 1990s keep me from any inclination to pronounce the end of history.

In this period of remarkable world change and its attendant instability, it is important that we and our allies continue to provide an overarching framework of stability. Thus, the fundamentals of our national military strategy remain sound. We must continue to provide a credible strategic deterrent through a modern TRIAD, protect our interests globally, retain a highly mobile and ready force for crises and contingencies, and through all of the coming restructuring avoid foreclosing options for hedging against a new or renewed threat.

THE ARCHITECTURE OF THE ARMED FORCES

With this backdrop, let me tell you about some of the issues we grappled with as we began the process of reshaping the armed forces of the United States:

The Inescapable Reality of Nuclear Weapons

No matter how much the most optimistic dreamer amongst us may wish it, we cannot disinvent nuclear weapons. We can try to defend against them--in the not too distant future, perhaps decisively so--and that is why we must keep pushing our Strategic Defense Initiative. As other wise Americans have said, it is inconceivable that any sane person would want to opt for mass destruction over meaningful defense as the most desirable strategic deterrent.

Since we cannot disinvent nuclear weapons, nor for the time being offer an effective defense, it is axiomatic that we must keep our strategic deterrent modernized and ready. The only way the Soviets can destroy us in thirty minutes is with their strategic nuclear weapons. We must deter the use of those weapons. We must have a triad of air, land, and sea-based nuclear weapons that represents state-of-the-art capability so that no Soviet leader would ever contemplate using his nuclear arsenal against us.

Conventional Forces For Forward Defense

In areas critical to our interests we must be able to conduct and support forward defense. In Europe, in Japan, on the Korean Peninsula, in the Philippines, in Southwest Asia, and in Latin America U.S. forces constitute the primary deterrent to conflict in the region. Our forward-deployed forces also constitute the leading edge of the capability to execute our military strategy should deterrence fail. Moreover, our forward-based troop and aircraft deployments and continuous naval presence in key areas demonstrate to our allies, our friends, and our adversaries that our commitment in the region is rock solid.

Our capability to reinforce these forward-deployed forces is also fundamental to deterrence and, should it fail, to warfighting. We can adjust the timetables for reinforcement based on a careful assessment of the various threats, but we must not dismantle the procedures, the mechanisms, nor the forces that reinforcement requires.

Conventional Forces for Crises and Contingencies

In the first ten weeks in my job as Chairman, I received ample proof of the need for conventional forces. I helped the President and the Secretary with crises in Panama, on the border of Nicaragua and Honduras, in El Salvador, and in the Philippines. I am well aware of the leverage that military forces provide in such circumstances. Perhaps more so, I can sense the nakedness our national leaders would feel were they to lack such an instrument. We do not want to be in the situation where we watch a crisis erupt and grow and our only reaction is, finally, mobilization for the war that the crisis eventually produces.

The war plans maintained by our warfighting CINCs around the globe are not simply aimed at the Soviets. Certain plans are aimed at a particular threat to U.S. interests that might foreseeably

develop in specific areas of the world. Each such plan has a complement of military forces that is intrinsic to it's successful execution. In our recent operations in Panama, the Members of Congress, our friends and our potential adversaries witnessed a dramatic example of the capability of our conventional forces to execute our plans. In this case, it became increasingly clear that to protect the interests of both the United States and Panama, we needed to act. We deployed significant conventional forces and successfully carried out the contingency operation and, at the same time, prevented a potentially larger crisis. In short, we protected American lives and restored to power the duly elected leaders of Panama.

Conventional Forces for the Drug War and for Anti-Terrorism

As you are all aware, I believe the American people want the armed forces to participate in the war on illegal drugs. I believed this when I was the Commander in Chief of Forces Command and I continue to believe it now. Impacting the flow of drugs into the U.S. is not a mission we will accomplish to the satisfaction of the American people in a brief period of time. We are in this one for the long haul. Acting always in accordance with the laws and traditions of our nation, we can make a significant contribution and we are planning to do so.

As for terrorism, we all hope that scourge goes away or at least diminishes. But we all know that for the time being it probably will continue to haunt us. While military force is only infrequently the right answer to terrorism, under certain circumstances it can be. We do not want to lose the option to exercise it should those circumstances arise.

Strategic Mobility

I cannot speak of conventional forces in crisis management, contingencies, or counterterrorist actions without stating the requirement for the strategic means to get those forces to the scene of battle. We must have the aircraft and the ships to get our forces to the action. The less our forces are forward-deployed, the more efficient and effective these ships and aircraft must be.

Space

The importance of Space to our modern armed forces is growing daily. At present, we would be hard-pressed to retain the precision and timeliness of our ability to react to crisis or to control contingency operations, without our Space assets. We would be equally hard-pressed to accomplish necessary surveillance and verify arms control treaties and agreements without our Space assets. Space is not yet indispensable to all our military operations, but it is rapidly growing in importance.

A Global Perspective With Regional Realities

As I told General Moiseyev and my Eastern and Western European counterparts in Vienna several weeks ago, the United States has global responsibilities. We cannot afford to become myopic nor to focus on a single portion of the globe. We are a superpower and the leader of the Free World. With that position go certain realities.

Europe.

Europe remains our first order of business. Despite the sweeping change there, certain realities endure. While we will reduce the number of our forces in Europe, there is nothing whatsoever on the horizon that indicates to me that we can disengage from the continent entirely.

NATO will remain an important alliance well into the future. No one in Europe views the U.S. presence there or the NATO Alliance as an anachronism. They view both our presence and the Alliance as the needed ingredients for stability and for the fulfillment of their and our political vision of a Europe whole and free. Because it is an alliance of nations with common values and aspirations, its foundation is far firmer than its military dimensions might suggest. At the same time, however, our armed forces in Europe are our commitment to stay. Our armed forces signal to the Europeans that we are in the contest for the long haul, that our endurance is sufficient to ensure a genuine peace. In short, our armed forces tell the nations of Western Europe that we are sincere when we say we are defending the United States and the Europeans by being in Europe. Successful alliances are built on shared hopes and values. They are sustained by these things too but not without military power. It is helpful to remember that a central tenet of the NATO Alliance has always been: strength without dialogue is politically untenable, but dialogue without strength is morally--and literally--indefensible.

Our destiny, now and in the future, is wrapped up in the destiny of Europe. Essentially, that has been true since the first colonist set foot on this continent almost four centuries ago. That is an enduring reality.

East Asia and the Pacific

For what is essentially an economy of force operation in the Pacific and Asia, the United States has purchased peace, prosperity, stability, and democratic progress in the region for the past 15 years. For a pair of forward-deployed Army divisions, a single numbered fleet, the equivalent of four tactical fighter wings, some Marine air-ground task forces, and a carefully constructed security assistance program, we have done all this. Japan has become the economic engine of the Pacific and much of the world. South Korea has a phenomenal economic growth rate. Thailand is prospering and with the Vietnamese out of Cambodia, will likely move ahead with amazing speed. The Philippines, with fits and starts, is still practicing democracy. The failures in the area are few

and on the other side: North Korea and Vietnam. And even they show signs of waking up, signs that they are listening to--as a minimum--the call of open markets.

We cannot afford to disengage in a major way from this region of the world. We have won too much. Our friends and our allies do not want to see us disengage. They know that politics and nature abhor a vacuum and that into the power vacuum created by major U.S. disengagement from the region would flow only God knows what. They trust the United States in matters of gravest importance and they do not want us to abandon the region.

We have fought our last two major wars in the Pacific, and we had a crisis there--in the Philippines--less than three months ago. To disengage in a major way, to remove all our Army, our Air Force, our Navy, and our Marines and go home, would see us coming back in the future under far less desirable circumstances; or, worse, losing the inclination to return and with that loss, forfeiting our access to the economic might supporting our superpower status. These are the enduring realities of the Asia and Pacific region.

The Middle East and Southwest Asia

We still patrol the Persian Gulf. We still provide military forces to the multi-national peacekeeping force in the Middle East. We still have security relationships with nations in the region. We still get a large amount of oil that passes through the Strait of Hormuz, and so do our allies. Iran and Iraq, without a peace treaty, still stand and eye each other warily. They are armed to the teeth. Iraq alone has over 1,000 first-line tanks and battle-hardened tankers to man them. These are all enduring realities in this region.

We have made our work easier in this critical part of the world. Operation Earnest Will, our escort of U.S.-flagged tankers in the Persian Gulf, and the associated military operations, helped create more confidence in the United States. The Gulf Cooperation Council states now have increased faith in America and have responded accordingly.

Moreover, new realities may be in the making. A more cooperative Soviet Union, a more tractable PLO, a war-weary region, a Syria without strident Soviet support, and so on, may bring about change. But for the moment and for the near future, these are realities we hope for. Meantime, the old realities endure. Indeed, they are perhaps the oldest realities with the greatest endurance of any in the world. We simply cannot afford to ignore them. We do so at extreme peril to our own livelihood, that of our allies, and certainly that of the state of Israel.

Latin America

In our own hemisphere, I have had the most pressing crises of my first four months on the job. The conflict in El Salvador is to the Salvadorans a full-scale war and demands our daily attention. A freely elected, democratic government is threatened by communist insurgents supported by other governments. On the borders with Nicaragua, there is constant tension as Honduras and Costa Rica watch the largest Army in this hemisphere outside the U.S. go through its daily routines. And the democratically-elected government in El Salvador looks across the Gulf of Fonseca and sees this same Nicaragua sending arms to the insurgents in El Salvador. And in Panama, at the close of 1989 we found it necessary to translate our previous longstanding diplomatic and economic efforts into military force, or risk more American lives and a deteriorating situation in an area of great interest to the nation. We chose to use force and, as a result, we have put our diplomacy and our economic efforts back on track and given Panamanians solid hope for a future of freedom and democracy in their nation.

In summary, Latin America will continue to demand our attention. The rapid procession toward freedom and democracy and civilian governments is still resisted by forces whose chief motivation in the world, communism, is dying fast. Adding to this resistance are the realities of a huge debt, a somewhat dismal economic environment, and the omnipresent greed of narco-traffickers. We cannot afford to allow this regional procession toward democracy, every bit as marvelous as the one in Eastern Europe, to succumb to these pressures.

A VIEW TO THE FUTURE

In 1985, Mr. Chairman, you and your colleagues in both houses began to tell the Department of Defense that we were going to spend less on the military. This was before Mr. Gorbachev's charm and enlightened self-interest took the world by storm, and before any announcement of substantial Soviet reductions in their military forces. Since that time we have had no real growth or a real decline in every annual budget. Because of other pressing domestic demands on our national resources, that was a reasonable approach to doing business.

Now that we do have a certain reduction in the Soviet military threat, albeit a fairly small one in terms of capabilities, it is reasonable to continue that approach. It is not reasonable nor wise, nor very safe for this nation, to draw down our armed forces precipitously and I am opposed to any such extreme approach.

When people ask me if we have a strategy for the future I tell them that we most assuredly do. It is a strategy based on the enduring realities I have described to you, on the continuing quite capable military potential of the Soviet Union, on the changed public consensus on defense spending, and on the determination that America shall not cease to be a superpower. It is a strategy that has about

it nothing of the Soviets' desperation. They have created a one-dimensional superpower, a Third World nation with a First World military force. They are re-examining their alliances, sending mixed signals to their client states around the world--who are losing too--and they are retrenching in key areas so they can eventually achieve multi-dimensional superpower status. We, on the other hand, are seeing our post-war strategy vindicated. Our strategy must evolve to accommodate both our victory and the Soviet desire to change, no matter how that desire turns out in reality. Our strategy must not abandon the victory nor compromise its completeness.

What emerges from this evolutionary approach to changes in our defense posture is a reshaped but balanced military that can do the things that have to be done to keep America from unacceptable risk. What emerges from my analysis of the military forces needed to implement the first stage of this evolutionary approach is the President's FY 1991 budget.

THE DEFENSE BUDGET FOR FY 1991

The President's Budget for the Department of Defense in Fiscal Year 1991 recognizes the dramatic changes in the world and projects a prudent, corresponding and long-term reduction in the U.S. military. The Budget projects real declines in spending, at roughly two percent per year, in 1991 and the years which follow. The 1991 Budget will bring the total real decline since 1985 to 16 percent. As you know, because of this decline we have already removed some force structure, brought a halt to improvements in readiness and sustainability, and deeply reduced modernization programs.

Secretary Cheney and Deputy Secretary Atwood have made real progress in identifying management changes and efficiencies which will help offset funding reductions and help us buy defense capabilities more economically. Even so, as Department funding continues to decline, each year will bring some substantial cuts in our military capabilities--smaller force structure, base and facilities closures, and elimination of acquisition programs. I have worked closely with the Secretary to pinpoint where these cuts should be made in the 1991 Budget adjustment. We are still working on where the additional cuts should be made in our overall FY 1992-1997 program.

As the Secretary and I worked these matters, we determined that our foremost priority is that we preserve the force quality that we have so carefully nurtured during the last decade. This quality has two vital elements: trained, ready and proud people balanced with modern, effective weapons systems. Thus, in the FY 1991 Budget we have eliminated the lower priority acquisition programs and portions of the force structure to preserve the high quality of what remains. In the world we face today--and that we calculate we will face next year--we are satisfied our efforts will provide the nation a military establishment capable of accomplishing national security objectives.

The 1991 submission reduces active duty manpower by over 91,000 from 1989 levels. We will make these reductions through reduced recruitment, voluntary early separations, and other actions short of involuntary reductions in force (RIF). To maintain high quality and morale, it is crucial we reduce strength gradually--without a RIF and with sufficient new enlistments to sustain the numbers of high quality people for skilled occupations. We cannot sustain long-term, volunteer manpower at high quality levels if we slash manpower precipitously.

Acquisition of quality weapons systems, in the face of declining resources, requires hard choices. We cannot take the seemingly easy path of cancelling our next generation of high technology systems. The Soviets are clearly protecting their own such systems in their restructuring, and the increasingly sophisticated weapons in the arsenals of some potentially unfriendly non-communist countries cannot be ignored in our planning. We looked at the capability and size of the military forces we will need in the long-term and sought to provide the highest priority to the development and procurement programs which support that outlook. We simply cannot afford the luxuries of buying current-generation systems that exceed the needs of our projected smaller force, or of continuing to develop systems whose eventual production will clearly not be affordable.

Our decisions in force structure reductions must demonstrate equal clarity of vision. As the size of our armed forces decreases, we must ensure that we identify and protect those forces which give us the flexibility to respond to a wide and increasingly unpredictable variety of threats. In the FY-91 Budget, therefore, we reduce active heavy ground forces while continuing to provide remaining forces with the funds to maintain the high levels of readiness needed to execute short-notice actions such as recently in Panama, in the Philippines, and not too long ago, in the Persian Gulf.

We also need to maintain the alliance cohesion which has helped bring about the dramatic changes in the Warsaw Pact. We must time our force reductions and withdrawals so that the overseas portions follow negotiations rather than anticipating them. Accordingly, we are starting the long-term reductions in 1991 with U.S.-based divisions and aircraft units. Reductions in overseas units are expected to follow, and we are reducing our investments in overseas construction pending identification of these units.

The Secretary and I feel strongly about the continued modernization of our strategic nuclear forces. Soviet nuclear forces are the only palpable threat to the very existence of our nation. While the Soviets appear to be reshaping their forces to conform to a future START agreement, they are

continuing a robust modernization effort. We must maintain the credibility of our nuclear deterrent. A vital part of the FY 1991 Budget is the carefully-phased and START-compliant modernization of each leg of our nuclear TRIAD.

CONCLUSIONS

I have spoken in complete candor in this written statement--as I promised I would in my confirmation hearing. At the outset, I spoke of the similarities between our present world and the immediate aftermath of World War II. There is another similarity I want to mention, a very encouraging similarity.

The American people are very astute at assimilating the lessons of history. After World War I, they rejected the idea of collective security and lived to regret that rejection as they fought valiantly in World War II. Following that war, they accepted the reality that some form of collective security was absolutely essential to world order, peace, and their own prosperity. They also accepted the systemic strength of the Free World as the underlying principle of that collective security. In the North Atlantic Treaty Organization and the other alliances forged in those post-war years, Americans put strong steel into their new beliefs. I believe that lesson is still alive in most Americans. I believe they still want a strong Free World, a strong America and a credible defense, they simply want it at a reasonable cost. We can give them that reasonable cost--and we can avoid putting them at risk too. The way to accomplish that twofold task is an evolutionary approach to reshaping our armed forces.

Thank you for the opportunity to provide these words for the record.

SUMMARY STATEMENT OF SECRETARY CHENEY

Secretary CHENEY. Thank you, General.

Just a few more quick comments to summarize.

FISCAL YEAR 1991 BUDGET REQUEST

Ordinarily, I would be here recommending relatively modest changes to the 1991 budget. We have now moved technically to a two-year cycle. We submitted a two-year package last year. We are working on the 1992-1997 POM, going to a six year plan because of the so-called two year budget that we have agreed to try to pursue. That 1992-1997 POM is being provided by the services. They will come back to me in April, we will work on it up during the course of the summer, it goes to the President in the fall and we will be back here next year to present it to the Congress.

That is where ordinarily we would make big changes in terms of strategy, in terms of major weapon systems, in terms of fundamental force structure.

Given the developments of last fall and since then, as well as the expectation about fiscal levels, I got the senior people in the Department together last fall—including the Chiefs and the Service Secretaries—and indicated to them my strong belief that there wasn't any way I wanted to come up here in January of 1990 and recommend to the Congress a budget that was totally unrealistic, that showed real increases in the outyears when it couldn't be justified in light of world developments, and that I felt that it would be far better to try to structure a program based on where we thought we would end up with respect to funding and do the best job we could to put together a force that had meaning and was capable of doing the kinds of things that the General has talked about, that I preferred that to coming up here with a "business as usual, there is going to be real growth in the outyears" kind of budget.

REAL GROWTH IN DEFENSE

If you look at the charts—I will try not to burden you with too many charts—basically, what we have for you is a package that comes down in real terms. I will be talking in terms of real dollars using the offsets for inflation. We are down about 2.6 percent, 1991 over 1990, in real terms.

The second chart, I think, captures it best, the one labeled Cumulative Real Growth in Defense Budgets.

If you look starting in 1985 on the left to fiscal year 1990, that line coming down is the reduction in real spending levels on defense over the course of the last five, six years.

Administrations have come up year after year, made requests for increases, never got the increase, it is always projected for the outyears, we always end up with real reductions.

If we look at the Reagan plan, last year we cut after an agreement with the Congress and at the direction of the President—down to what is labeled the Bush April plan.

We are proposing the one labeled January 1990 plan. That wedge, if you will, between the Reagan plan on top and the Janu-

ary 1990 plan on the bottom, the latest Bush budget, that wedge comes to about $231 billion.

Some people say that is mythical money. It is not. It is what, in fact, we would have had to pay in order to buy what Congress approved, for example, in 1990.

If you go back to the conference agreement of last fall and take into account what that provided for the Department, 28 divisions in the Army, four divisions in the Marine Corps, 36 wings in the Air Force, and all the major procurements, you add that all up, what that would cost in 1991 is $317 billion.

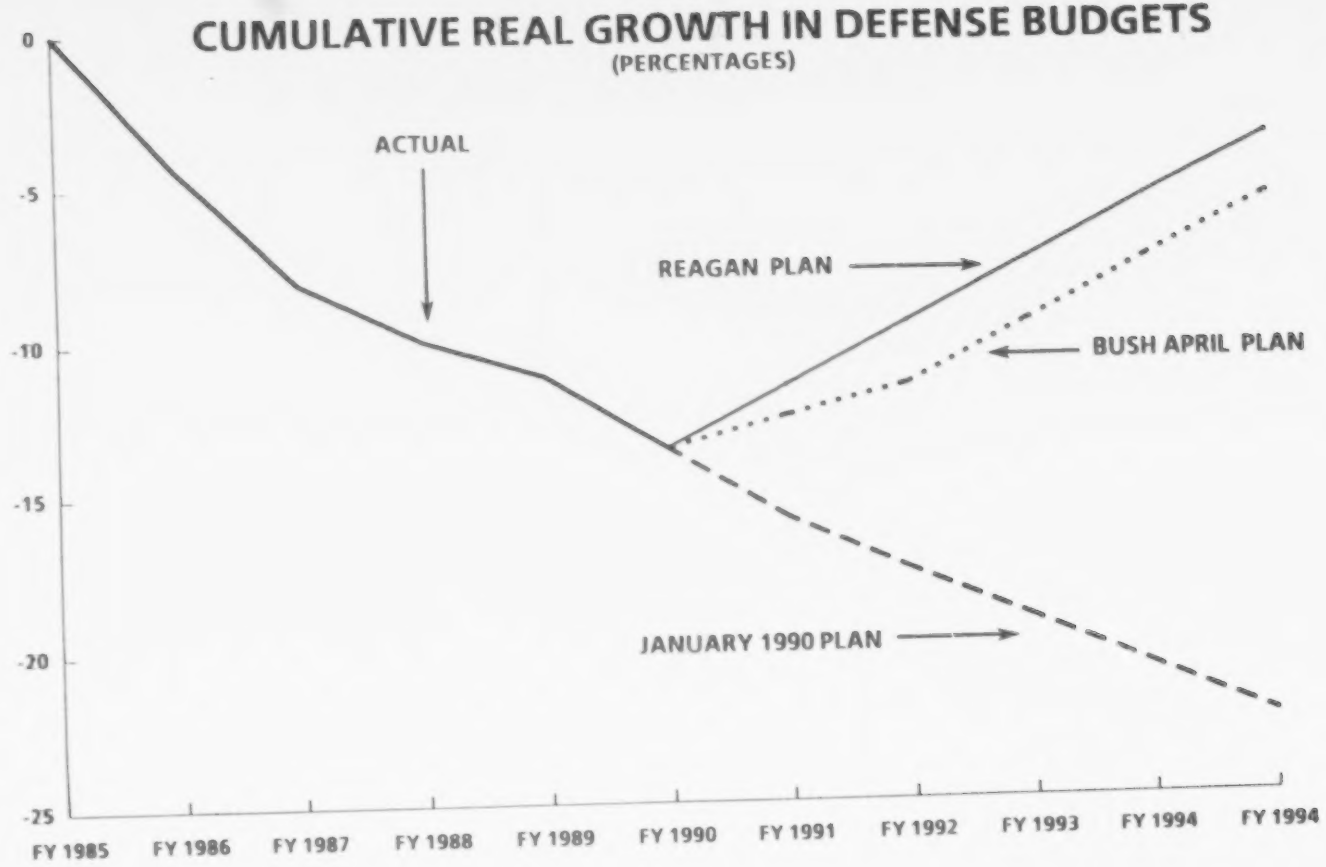
What we are asking for is $295 billion.

So that reduction is better than $22 billion between what Congress approved just last year and what we are actually submitting. If you run that out over a five-year period of time, that is where you come up with the number, that plus what I did last spring, the $65 billion we took out then, you come up with the number $231 billion. We haven't got it all out yet. We still have a ways to go, but that will give you some idea of where we are headed.

[Charts follow:]

NATIONAL DEFENSE TOPLINE
(Current $ Billions)

	1990	1991	1992	1993	1994	1995
BUDGET AUTHORITY						
DoD 051	**291.4**	**295.1**	**300.0**	**304.4**	**308.0**	**311.8**
DoE & Other	10.3	11.7	12.6	13.1	13.6	13.9
TOTAL 050	301.6	306.9	312.5	317.5	321.6	325.7
OUTLAYS						
DoD 051	**286.8**	**292.1**	**296.9**	**299.0**	**302.3**	**304.8**
DoE & Other	9.6	11.1	12.3	12.9	13.4	13.7
TOTAL 050	296.3	303.3	309.2	311.9	315.7	318.6


CUMULATIVE REAL GROWTH IN DEFENSE BUDGETS
(PERCENTAGES)
0
-5
-10
-15
-20
-25
ACTUAL
REAGAN PLAN
BUSH APRIL PLAN
JANUARY 1990 PLAN
FY 1985
FY 1986
FY 1987
FY 1988
FY 1989
FY 1990
FY 1991
FY 1992
FY 1993
FY 1994
FY 1994

DEFENSE OUTLAYS AS A SHARE OF GNP

Secretary CHENEY. The next chart, "Defense Outlays as a Share of GNP" is interesting.

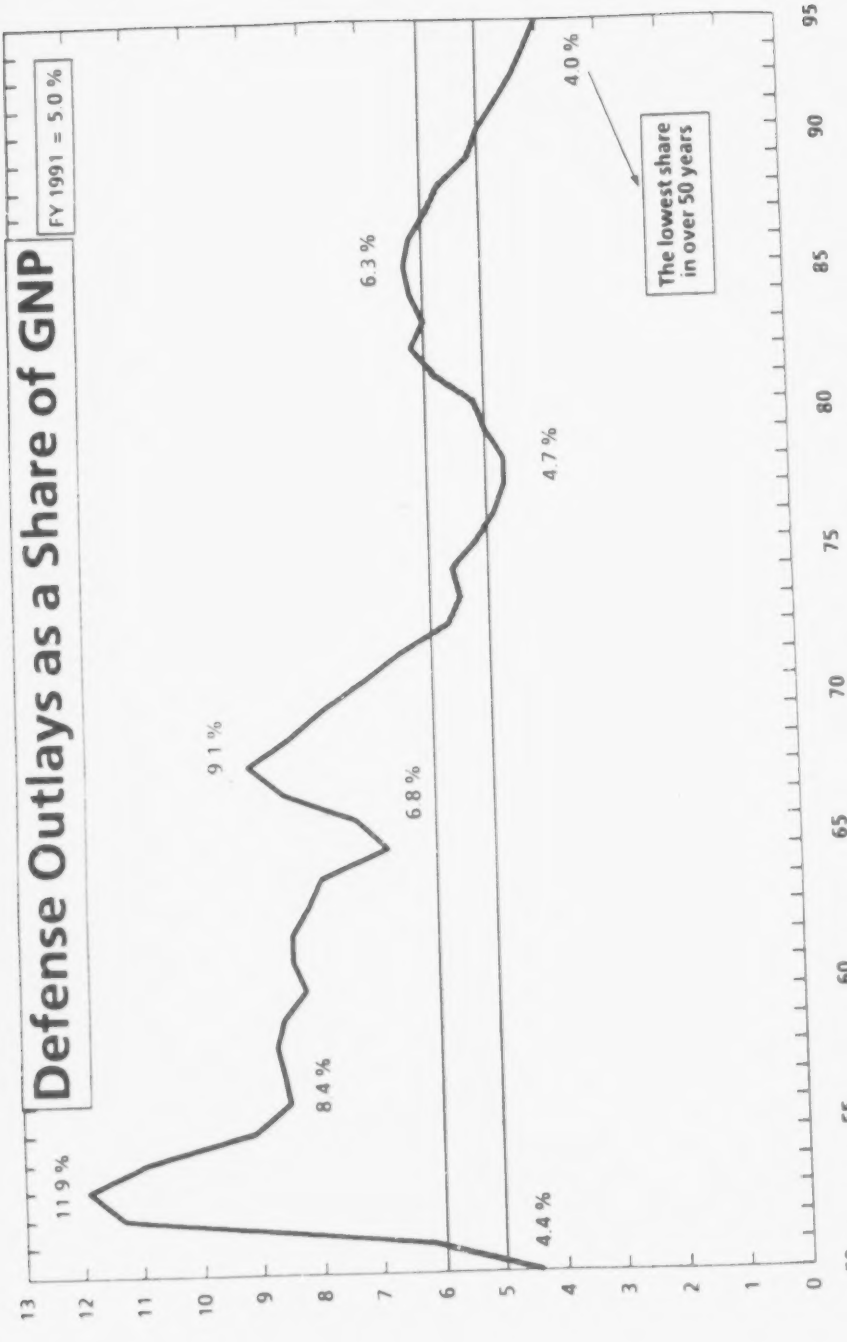
For those, Mr. Chairman, who voiced the kinds of comments you mentioned at the outset, that we can cut $10, $15, $20 billion more out of the defense budget, I would like to point out where we are with respect to defense as a percentage of Gross National Product. That is the best way I know to capture the level of effort that is represented.

The band through the middle of the chart is the band between five and six percent. You see the peak of the Korean War period—almost 12 percent of GNP went to defense. Vietnam, the peak was 9.1 percent; the Reagan peak in 1985 was 6.3 percent.

This year we are down to five percent, and if you follow the path we are recommending, you will end up at four percent of GNP being spent on defense in 1995. That is the lowest level of defense spending as a percentage of GNP since before Pearl Harbor.

The previous post-war low was 1948, when we were down to 4.1 percent, not a banner year for defense.

[Chart follows:]


Defense Outlays as a Share of GNP
FY 1991 = 5.0 %
11.9 %
9.1 %
8.4 %
6.8 %
6.3 %
4.7 %
4.4 %
4.0 %
The lowest share in over 50 years
FISCAL YEAR
13
12
11
10
9
8
7
6
5
4
3
2
1
0
50
55
60
65
70
75
80
85
90
95

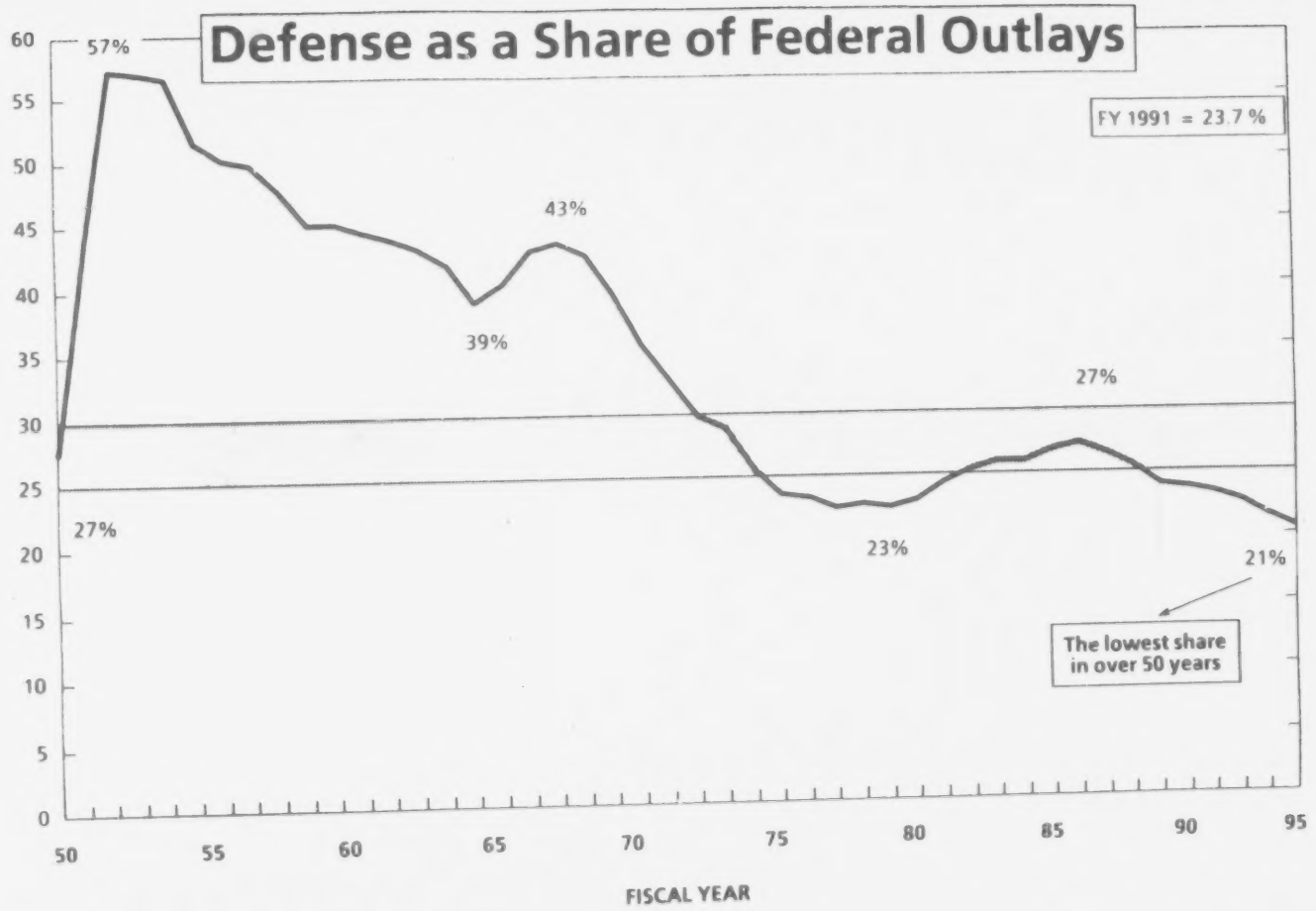
DEFENSE AS A SHARE OF FEDERAL OUTLAYS

Secretary CHENEY. The next chart shows spending as a percentage of Federal outlays.

During the Korean War period, 57 percent of the Federal budget went for defense; at the Reagan peak, we were at 27 percent. This year we are at 23.7 percent.

If you follow the path we recommended, down roughly two percent a year over the next five years, by 1995, 21 percent of the budget will be going for defense, the lowest level of defense spending as a percentage of the Federal budget since before Pearl Harbor.

[Chart follows:]


Defense as a Share of Federal Outlays
FY 1991 = 23.7 %
57%
43%
39%
27%
27%
23%
21%
The lowest share in over 50 years
60
55
50
45
40
35
30
25
20
15
10
5
0
50
55
60
65
70
75
80
85
90
95
FISCAL YEAR

TOTAL FEDERAL OUTLAYS

Secretary CHENEY. The next chart "Total Federal Outlays" is just another way of showing the same thing.

To the extent that we do have a deficit problem, I think the point has to be made that the growth in Federal spending, contrary to the public mood out there in recent years, has not been in defense.

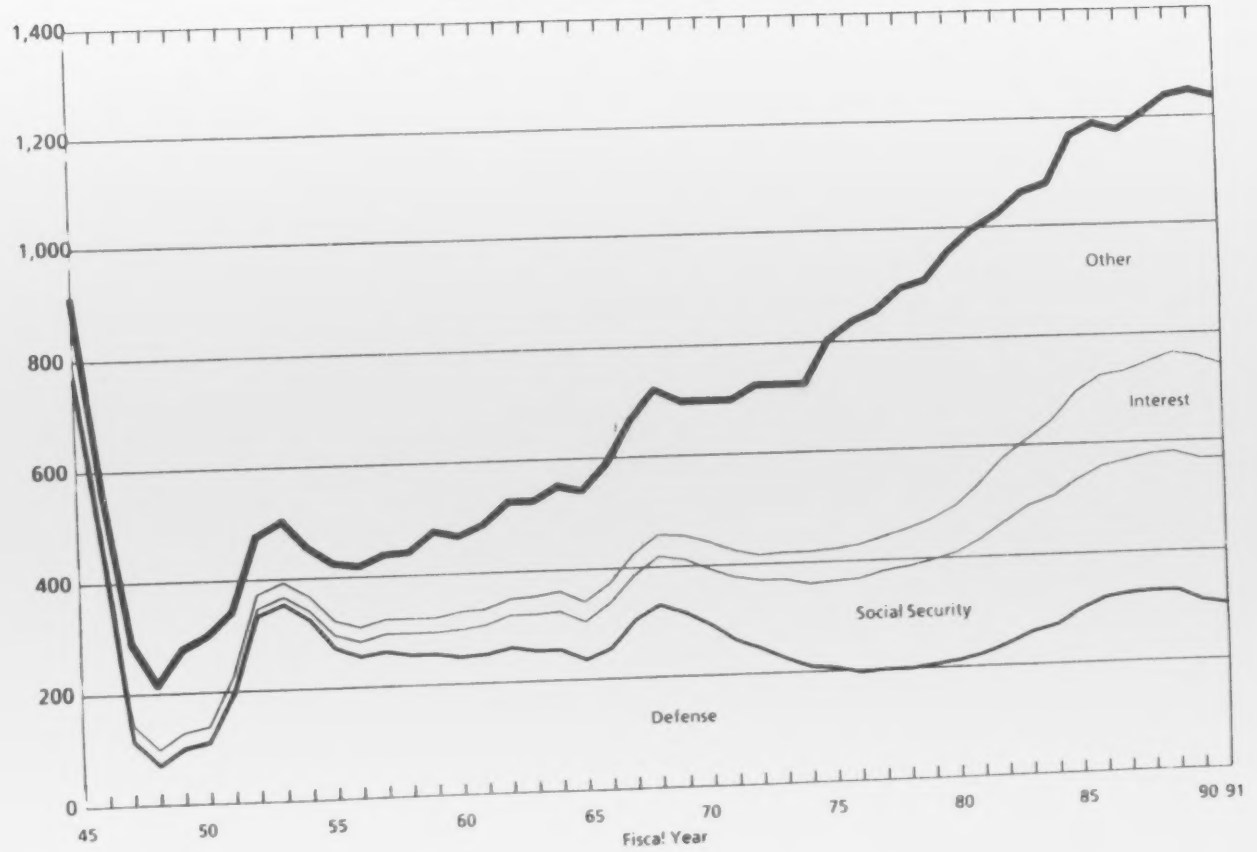
As Congressman McDade mentioned, we have been on a downward path since 1985 and the real Federal spending has come in social security, interest on the national debt, other programs, but not in defense in the last five years.

We are an increasingly small part of the problem in terms of driving the size of that deficit.

[Chart follows:]

Total Federal Outlays

(Billions of FY 91 Dollars)



DEFENSE PRIORITIES

Secretary CHENEY. Defense priorities, Mr. Chairman, that we had as we put together the budget, I think, deserve a moment's comment.

The longer I serve as Secretary, the more convinced I am that the single most important military asset we have today are the young men and women who are willing to wear the uniform.

As you mentioned at the outset, you had the chance to go to Panama shortly after Operation "Just Cause".

I was there and spent Christmas Eve and Christmas Day with the troops three or four days after the operation actually started.

I am sure you were tremendously impressed, as I was, with their patriotism, with their dedication, with their professionalism, with their ability to do unbelievable things in a combat situation.

That was a very successful operation and more than anything else that made it go—you had to have equipment and training, but more than anything else, it was the people that carried it out. They hit 26 or 27 different targets in the dead of night and the way they did it was a tremendous accomplishment.

Whether talking about that or the Marine Corps or the aircraft carriers in the Mediterranean or the strategic bomber forces, down the line the thing that counts more than anything else today is the quality of the people who are willing to serve.

As the chairman mentioned, this is a different situation that we are faced with now, this build-down, than any that we have gone through in the last 50 years.

World War II, Korea and Vietnam, we were coming off war-time situations with large standing forces and a very large number of draftees in the force, people that wanted to return to civilian life.

We don't have anybody like that in the military today. Everybody who is serving today is a volunteer and wants to be there and wear the uniform. We have contracts with those people. We can shrink the size of the force—I think that is essential to avoid the hollow Army of the seventies—but in doing that, we have to treat people right. It is absolutely crucial we keep faith with folks who have, in fact, been willing to put on the uniform and go in harm's way, if necessary.

So, personnel questions, quality of life, our ability to attract and retain first-class people, that is a part of the program we want to pursue and I would hope the committee would share the previous commitment that I know you have had in the past.

READINESS

Regarding readiness, oftentimes readiness is thought of as something that you can change with warning time, that warning time is extended in Europe, therefore, we can reduce our level of readiness.

I think readiness has to be looked at in a very different way.

It has a great deal to do with quality of the force, with how well trained the troops are, with how many flying hours the troops get, et cetera.

That is what is captured in readiness.

Nobody wants to be part of a "schlock" operation. If you are to maintain first-class forces, then you have to pay for the training and the time for them to exercise and practice their craft.

STRATEGIC MODERNIZATION

Strategic modernization, I think, speaks for itself.

To the extent that we have shaped the budget, we have taken advantage of the drawdown in the conventional threat in Europe.

You will see that in a moment, some of the changes we are making, but as the chairman mentioned, there has been no change in the Soviet strategic forces except to have them get even better than they were before, and as long as that effort continues, strategic modernization has to be an important point for us.

Maritime superiority, I think speaks for itself.

EFFICIENT PRODUCTION RATES

Efficient production rates, we are not successful in every instance of making decisions based on efficient production rates.

In a few cases, we have slipped programs, especially where we are dealing with the early stages of new technology, but as a general proposition, again this year, I tried to do what I did last year, to recommend to the Congress that we terminate and close down production lines rather than run them at inefficient rates.

TECHNOLOGY BASE

Maintaining the technology base, I think, is important. It is a difficult assignment.

I can't say that we have figured out how to do it yet, but if you look at increased access on the part of the Soviets to Western technology, at the proliferation of sophisticated military technology to the Third World, the development of ballistic missile capability, weapons of mass destruction by countries who have never had them before, their own access to improved air defenses and higher quality aircraft, et cetera, the technology base is very important and will be an important part of our military equation for some time to come.

[Chart follows:]

DEFENSE PRIORITIES

- PERSONNEL/QUALITY OF LIFE
- READINESS
- STRATEGIC MODERNIZATION
- MARITIME SUPERIORITY
- EFFICIENT PRODUCTION RATES
- MAINTAIN TECHNOLOGY BASE

REDUCTIONS IN DEFENSE

Secretary CHENEY. Defense cuts since January 1989, I will give you a quick fix on some of the things I have done while Secretary.

I took out almost $65 billion last year. The plan before you today requires that we take out an additional $167 billion out of the FYDP 1990 through 1994. We have not identified all $167 billion, although we have got a significant portion of that.

DEFENSE MANAGEMENT REPORT

The Defense Management Report—one of the things the President tasked me with was implementing the Packard Commission reforms.

We briefed the press a few weeks ago on the Defense Management Report and included savings in our budget proposal to the Congress.

We have identified 42,000 jobs we want to eliminate and $39 billion in specific savings that we will achieve over the course of the next five years in terms of doing a better job in managing the Department.

There will be more savings.

We have tried to be conservative in our estimates. These are specific identifiable savings which we will be happy to talk about.

The cuts in 1991—from what the Congress had approved in 1990 in terms of the cost of the program—is about $22 billion.

It involves program terminations, base closures, force structure cuts, deferrals, a civilian hiring freeze that is now in place in the Department, a freeze on military construction that will only run about 90 days, but that is to give the services an opportunity to realign their plans with respect to MILCON in a way that fits with where we are headed long-term.

Also included in that is a 12 percent cut in the OSD staff in Washington.

[Chart follows:]

DEFENSE CUTS SINCE JANUARY 1989

- The FY 1990-FY 1994 Plan was reduced by $64.2 billion in the April 1989 Budget Revision.
- The FY 1990-FY 1994 Plan was reduced by an additional $167.0 billion in January 1990.
- The Defense Management Report contains reductions of $ 39 billion.
- Reductions to the FY 1991 Program amount to $ 22.4 billion since the Budget Agreement in April, including:
  - Program Terminations,
  - Base Closures,
  - Force Structure Cuts,
  - Deferrals,
  - Civilian Hiring Freeze, and
  - Military Construction Freeze.

PROGRAMS TERMINATED

Secretary CHENEY. Programs terminated—as was mentioned at the outset, we have terminated a number of programs.

While some of these are controversial, I think it is necessary, and in some cases we are dealing with programs that are ready to go to full-up production, such as the V-22 Osprey.

In other areas, we are dealing with programs that have been in the works for a long time, and I think we have enough inventory and can afford to shut them down.

The V-22 was the subject of intense focus last year. I agreed last year that we would fund the R&D stage. This year, we do not have any money in the fiscal year 1991 budget, and it is my recommendation to the Congress that we not fund the V-22.

The F-14D, the new production line is headed for termination. Congress directed that we buy 18 more. We are doing that and wrap that up in the 1990 budget and have the termination procedures ready to go to shut down the new production line. We are going to remanufacture the old ones. We have over 400 F-14As in the force.

The AHIP program is one I recommended taking out last year. Congress wanted to continue that so we brought an additional 36 aircraft in 1990, but I am back recommending we shut that down.

We have 243 of those, I think that is sufficient.

The Phoenix missile goes on the F-14D. I think we have enough in the inventory.

The M-88A2 is pretty well taken care of. That was killed last year.

The F-15E aircraft is an important decision. I talked to the Congress about it last year and indicated that it was my intention when we got to 1991 to close out the buy on the F-15E. We will have 200 in the inventory. It is a great aircraft, the F-15E model, but I think that 200 is sufficient for our needs.

The Apache helicopter and the M-1 tank decisions reflect the changes we see in Europe.

If we are going to shrink force structure, if we are going to take down the number of divisions, if we are no longer faced with the threat that we were once faced with of having to deal with heavy Soviet armored forces in Germany, then it seems to me we can look at systems like the Apache helicopter where we have 780 of those in inventory and the M-1 tank, almost 7,900 in inventory, some 9,000 HI60-A3's, and conclude that our tank inventory at present is sufficient, and that what we ought to do both with respect to the Army aviation program and the tank program is start looking at that next generation, that if we are going to try to maintain the technology base, we ought to shut down current production and be investing in the future.

So it is my recommendation that we terminate both those programs in 1991.

We will, in effect, mothball the M-1 tank production line.

It will continue to operate, to close out the Saudi sale, for example, and for foreign military sales. But by the end of 1992, I think both the current lines will be shut down.

The Maverick missile is a good system, but we have a lot of them in the inventory.

You can go down the list, all fall into the same general category.

[Chart follows:]

PROGRAMS TERMINATED IN THE FY 1991 BUDGET

($ in Millions)

SYSTEM	FY 1991	FY 1991-1994
V-22 OSPREY	(-1,395) *	-6,468
F-14D Aircraft	(-469) *	-1,991
Army Helicopter Improvement Program (AHIP)	(-328) *	-1,400
PHOENIX Missile	(-333) *	-614
M-88A2 Improved Recovery Vehicle	(-90) *	-309
F-15E Aircraft	(+ 303) *	-3,317
Apache Helicopter	-682	-2,528
M-1 Tank	-1,086	-6,249
Maverick Missile	-367	-743
Air Force Airborne Self Protection Jammer	-264	-1,199
Combined Effects Munition	-142	-399
SEA LANCE ASW Standoff Weapon	-156	-975
Non-Line-of-Sight Missile	-131	-1,202
Advanced Short Range Air-to-Air Missile	-7	-46
Follow on to F-4G Wild Weasel	-12	-176
Air Base Survivability	-19	-130
Chaparral Missile	-26	-157
MK 19 Grenade Launcher	-20	-130
OV-1D Aircraft Mod Program	-37	-120
Autonomous Precision Guided Munition	-27	-114
TOTAL	**-2,976**	**-28,267**

FORCE STRUCTURE CHANGES

Secretary CHENEY. The next chart shows force structure changes. We are taking down two active divisions in the Army.

There have been suggestions that somehow we are getting unbalanced because we are funding strategic programs and taking bit cuts in conventional forces.

The fact of the matter is that where we see the changed threat is in the conventional area.

The big money in our defense budget isn't in strategic systems. It is in conventional forces.

While we have some big-ticket strategic items like the B–2, if we are going to save money in the defense budget, we will have to do it on the conventional side.

Taking out two Army divisions, specifically the Second Armored at Fort Hood and the Ninth Infantry at Fort Lewis, is intended to start that process of rebuilding the Army by making it smaller.

Two of the four battleships are coming out, including the *Iowa*, which we are going to lay up rather than repair. It costs money to take a nuclear cruiser out because you have to decommission it.

We are taking down eight of the attack submarines. The rest of the list is basically self-explanatory.

[Chart follows:]

FORCE STRUCTURE CHANGES IN THE FY 1991 BUDGET
(Dollars in Millions)

	FY 1991	FY 1992-1994
Deactivate Two Army Divisions	-1,227	-4,940
Retire Two Battleships	-75	-534
Retire Two Nuclear Cruisers	+9	+99
Deactivate 8 SSNs	-232	-105
Marine Corps Artillery Batteries	-5	-44
Deactivate 14 B-52s	-71	-246
Minuteman II	-128	TBD
WC-130 Weather Reconnaissance	+5	-
TOTAL	**-1,724**	**-5,770**

POTENTIAL OUTYEAR ADJUSTMENTS

Secretary CHENEY. The next chart, Mr. Chairman, simply shows some of the big items that we are spending money on. I won't go over that.

Finally, by way of closing, Mr. Chairman, let me make a couple of comments about where we think we are headed in the long term.

As I mentioned, we have got major reviews underway within the Department on several important items.

We are looking at our big aircraft programs, the B-2, the C-17, the ATA, and the ATF.

We also have an independent study going on SDI.

The overall level of effort here is aimed in part at asking the question, especially on aircraft programs and SDI, what are the basic requirements? Is this the only way to satisfy the requirement? Does the requirement still exist? Is there something that has been changed in the strategic environment that would justify our going back now and reevaluating these programs, should we look at the funding profile.

Can we reduce the total buy? How can we adjust these programs in light of the budget and strategic realities?

As we look at where we are headed with respect to force structure, if you assume we get a START agreement, if you assume we get a conventional force agreement in Europe, if you assume that we see the continuation of the positive trends in Europe in recent months, then we think we can, in fact, make significant savings by significantly reducing our overall force structures.

With what we have in 1991, we are taking up to five divisions out of the Army, some five wings out of the Air Force, a significant reduction of ships in the Navy—so you are closer to 500 ships than the original goal of 600.

There are big decisions out there yet to be made.

I am not here to tell you that we have been able to hit that minus two percent growth and dot all the I's and cross all the T's. We haven't.

We have a lot of work that we will undertake in connection with the 1992-1997 POM that will allow us to meet those targets.

To the extent that we are able, we have fed back into the 1991 budget our thinking about the outyears, that is to say, the decision to reduce the size of the Army, for example, is captured in 1991 by beginning the process by taking down two active divisions in 1991, by canceling the M-1 and the AH-64.

So I think we have a good package.

[Charts follow:]

KEY PROGRAMS IN THE FY 1991 DoD BUDGET
(Current $ Millions)

	DOLLARS	QUANTITY
Counternarcotics Program	1,208	-
B-2A Bomber	5,536	5
SDI Program	4,471	-
PEACEKEEPER/Rail Garrison	2,836	12
Small ICBM	202	-
TRIDENT Submarine	1,453	1
TRIDENT II Missile	1,746	52
SSN-21 Attack Submarine	3,669	2
DDG-51 AEGIS Destroyer	3,681	5
C-17A Aircraft	2,717	6
F/A-18 HORNET Aircraft	2,123	66
F-16D FALCON Aircraft	2,973	150
Chemical Demilitarization Program	431	-
Environmental Restoration	817	-
Dedicated Equipment for Guard & Reserve	455	-

POTENTIAL OUTYEAR ADJUSTMENTS

- FY 1992-1994 approved topline requires reduction of $141 billion from April. (Overall 1990-1994 reduction is $167 Billion.)
- FY 1991 budget decisions (terminations, force structure adjustments, etc.) will reduce outyears by about $30 billion.
- Defense Management Report initiatives will save about $25 billion (1992-1994 share of $39 billion for 1992-1995).
- Early ratification of CFE & START, along with aggressive follow-on to CFE will allow reductions along the following lines:
  - 3 Additional Army Divisions;
  - 5 Air Force Tactical Air Wings;
  - Reexamination of TRIDENT and other ship construction;
  - Guard & Reserve manpower reductions; and
  - Military & Civilian strength reductions.
- Reviews are currently underway on B-2, C-17, ATA, ATF and SDI Programs.

SUMMARY

Secretary CHENEY. I would ask the committee, and know of the strong support the committee has given us over the years, to reiterate what General Powell said, and that is, that if we are going to go through one of those periods where we are going to reduce the size of our military capability where we are going to cut back on the amount of money we spend on defense, and we think we can do that now and do it safely, it is absolutely essential that we do it in an intelligent fashion, that we hit all aspects of our operations, that we not leave any one facet untouched.

We don't want to end up, for example, with a lot of bases and no troops to put on them, so we have got to look at base structure, at procurement, at all of our accounts if we are going to, in fact, develop the kind of capability at lower funding levels that I think are absolutely essential.

I think we can say today that we are on the verge of winning an enormous victory, that the commitment the American people have made to strong national defense now for some 40 years since the end of World War II has paid off in spades, and we see it when we see our adversaries increasingly talking about adopting systems based upon value systems not that dissimilar from our own, all of a sudden talking about democracy and free markets. We see the people of Eastern Europe for the first time actively contemplating living in free societies. We even see the beginning stirrings of changes within the Soviet Union.

Now is not the time for us to blow it. Given the success of the strategy we have pursued over these years, given our status as a superpower, given the continuation of the threats that do still exist in the world, it is very important that as we go through the period immediately ahead, that we not be too quick to cash in the so-called peace dividend that my former colleagues seem so eager to spend.

Thank you, Mr. Chairman.

Mr. MURTHA. Thank you, Mr. Secretary.

[The statement of Secretary Cheney follows:]

STATEMENT OF SECRETARY OF DEFENSE DICK CHENEY
IN CONNECTION WITH THE FY 1991 BUDGET
FOR THE DEPARTMENT OF DEFENSE

Mr. Chairman, Members of the Committee:

It is a pleasure for me to come before this Committee to provide the details of the Administration's defense budget for FY 1991. These congressional deliberations come amidst an historic transformation of the global security environment. Our task is to decide how best to preserve America's security, while taking account of and supporting that transformation.

THE CHANGING GLOBAL SECURITY ENVIRONMENT

Changes affecting U.S. security are occurring throughout the world, but most profoundly in the Soviet Union and Eastern Europe. For four decades, the primary concern of NATO has been to deter a potential Soviet-led invasion of Western Europe. Now, instead of tanks and troops moving from East to West, the ideas and institutions of freedom are moving from West to East.

As we view what are clearly positive developments, we have a responsibility to distinguish what is done from what is only promised. The Soviet Union remains an extremely formidable military power. Recent events both in Eastern Europe and the Soviet Union itself have decreased the risk of the Soviets launching a premeditated attack on Western Europe. But the volatility and unpredictability of the situation there has, in many ways, increased the chance of an inadvertent conflict. We cannot know for certain the future course of the current communist upheaval. As President Gorbachev himself has noted, "There are no guarantees that the positive processes [we] have begun are irreversible."

Facing the uncertainty implied by this ongoing transition, America's best stance is steadiness in its defense policies and posture in the short term. We must make our military adjustments with an eye toward genuine reductions in risks, not in anticipation of how we hope global events will evolve.

EVOLVING THREATS TO U.S. NATIONAL SECURITY

While the threat of deliberate aggression in Europe has diminished, the dangers elsewhere are increasing. In the coming decade, U.S. forces must be prepared to cope with the following challenges:

- The Soviet Union. While we expect Soviet forces to shrink, they have diminished only marginally so far, significant military capabilities remain. The Soviet nuclear arsenal is undergoing considerable modernization. Moreover, the Soviets still are working to enhance the overall effectiveness of all their forces. We should not expect the Soviet Union to neglect significantly the only national instrument that makes it a superpower: its substantial nuclear and conventional forces. And while events in Eastern Europe are encouraging, they have not consistently been matched by more promising Soviet actions in Asia or the Third World.

Hard realities tell us that we cannot assume that Moscow's current military restraint will continue. Because of its centralized authority, a future Kremlin could reverse its military course quickly and decisively. What would most enable the world's

democracies to reduce their concern about the Soviet Union's future intentions would be its establishment of durable institutions based on freedom and respect for human rights.

• Arms proliferation to potentially hostile states. The diffusion of high technology weapons to potentially hostile nations has greatly complicated America's security picture. At least a half dozen nations are working to acquire nuclear capabilities, and a disturbing number of Third World countries are acquiring sophisticated military arsenals, including long-range missiles and chemical and biological weapons. Moreover, certain of these nations are hostile to U.S. interests and have indicated that they will attempt to assert domination over neighboring areas. As in the case of Iran during its war with Iraq, these states may be willing to expand conflicts in ways destructive of the interests of the United States and its allies. America may find itself compelled to act, as it did in the Persian Gulf, to forestall such efforts when they threaten our national interests, including the safety of our citizens.

• Anti-American regimes. As the case of Manuel Noriega proves, various Third World states may--for a variety of reasons--decide to behave in ways that force a military confrontation with the United States, despite the odds against them. Moreover, many Third World states have acquired the ability to use force far more effectively, and over a longer period of time, than could Noriega.

• Non-state threats. U.S. armed forces are called upon today--and will be in the future--to confront organizations that have proven themselves deeply hostile to American interests and values. These include drug traffickers, anti-democratic insurgents, and terrorist groups.

ADAPTING U.S. DEFENSE STRATEGY TO GLOBAL CHANGES

America's national security strategy should continue to opt for global involvement over isolation. America's enduring global interests require a significant ability to counter threats affecting those interests. We must maintain a forward presence in cooperation with our allies and friends in key areas such as Europe, the Mediterranean, Asia, and the Pacific. Regardless of whether Soviet military power diminishes, many U.S. allies and interests will continue to face major threats, as in South Korea and the Persian Gulf region.

Additionally, America's global military posture and leadership promotes an international environment in which free peoples and those seeking freedom can prosper. It helps allies and friendly nations follow a course favorable to shaping a better world; supports peaceful change and resolution of international differences; fosters the free flow of goods, people, and ideas; and promotes freedom, human rights, and nonaggressive national behavior. Many nations appreciate the contribution to peaceful progress made by a visible American military presence in their part of the world. Not only does our presence deter Soviet influence, it also can dampen regional arms competition and discourage local powers from seeking to dominate their neighbors.

As we work toward negotiated arms reductions and a better world for all peoples, we should remember that the military strength of America and its allies made possible much of the positive movement we are now seeing, and it will be critical to continued progress. The promising developments in Eastern Europe and the Soviet Union--ultimately brought about by the courage and

sacrifices of people yearning to be free--were fostered by the collective resolve of free nations. We contained and opposed communism so that its own political, economic, and moral bankruptcy would be felt at home and would thereby undermine its ruling regimes. Military strength will remain the ultimate safeguard for democratic nations against armed regimes hostile to our interests and values.

America should continue to anchor its strategy to the still-valid doctrines of deterrence, flexible response, forward defense, security alliances, and prudent arms reductions. Even the extraordinary events of 1989 do not mean that America should abandon this strategic foundation. Rather, our task is to analyze our strategy and forces continuously, and adjust them as necessary to meet changing threats and conditions.

The central tenet of America's global strategy is and should remain: to deter aggression against our global interests by maintaining--with our allies--a credible array of military responses, aimed at making the cost of such aggression exceed any possible gains. The great question then is: how many and what kind of forces are needed to do that? With growing uncertainty about the location and severity of our future threats, that question becomes harder to answer. Also complicating our decisions is the fact that the forces we may need in ten years have to be planned and programmed now.

LINKING STRATEGY TO DEFENSE BUDGET DECISIONS

The changing global conditions highlighted above have extensively affected the Department's plans and programs, and they will continue to do so. The most compelling indicator of the extent to which we are taking account of promising global developments is our revised FY 1991-95 Topline. Just a year ago, the President's five-year plan included modest real growth of 1 to 2 percent each year. Now, based on a realistic assessment of America's security threats, I believe our nation can begin to scale back defense funding somewhat without unacceptable risk to its security, if current U.S.-Soviet negotiations bear fruit as expected. The prudent and efficient pace I recommend is roughly a 2 percent per annum real decline in defense budget authority for FY 1991 through FY 1995.
(Chart 1)

This course will involve a substantial reduction in planned defense resources and continues a steady decline in defense funding that began with FY 1986. By FY 1995, the result will be a cumulative 10-year real decline of 22 percent, and DoD outlays as a percentage of our GNP and of total federal outlays will be the lowest in 50 years. As a way of comparison, our actual DoD budgets--including the request for FY 1991--will be $208 billion less than the amounts that would have been required to provide zero real growth for FY 1986 through FY 1991. When the projections through FY 1995 are included, our actual budgets will end up $515 billion below what the zero-real-growth level would have been for FY 1986-95. **(Charts 2-5)**

The assumptions allowing this significant reduction in defense resources--and the accompanying reshaping of U.S. forces--are these:

- A continuation of the positive developments in Eastern Europe and the Soviet Union;

- Completion of satisfactory Strategic Arms Reduction Talks (START) and Conventional Armed Forces in Europe (CFE) agreements; and

- No unforeseen, extended commitments for U.S. forces.

As long as these conditions hold, the lower spending I am proposing can keep America's security risks acceptable. However, that requires that we adhere to a rational and coherent process for allocating our limited resources wisely. My Department is determined to do its part. DoD's senior civilian and military leaders have discussed extensively every major strategic issue affected by the extraordinary events of recent months. We are continuing to reassess our military programs within the context of our evolving defense needs.

BUDGET PRIORITIES

The budget priorities outlined in this section are reflected in my FY 1991 defense request, and they indicate how I believe we should proceed in adapting our current forces to changing global prospects. Taking account of promising security developments and declining budgets, we must preserve the high quality of our forces, even if that means major reductions in our manpower and active force structure. High quality derives mostly from our military people, but it also requires that our weapons and systems be technologically superior. To ensure such superiority, we must restrict access to critical Western technologies, emphasize military research and development, and terminate some older programs to fund more advanced systems.

Whatever systems we decide we need should be acquired as efficiently as possible. That means economical production rates, which may require the deferral or termination of some lower-priority programs. To guard against an unexpected resurgence of security threats, we also should give priority to those elements of our military posture that would be most difficult to restore, if required. For example, America's technological superiority and the high quality of our uniformed men and women would be very hard to restore, if they deteriorated.

Our budget decisions should reflect our confidence that negotiated force reductions are likely, that Soviet attack options will decrease, and that NATO's warning time for a major Soviet attack will increase. We and our Atlantic allies also should plan now to use this scaling back as an opportunity to effect a better allocation of military roles, responsibilities, and other security burdens within NATO.

Below is a further delineation of the specific budget priorities that shaped our FY 1991 defense request and are guiding our plans for FY 1992-97: **(Chart 6)**

- People. We must continue to recruit and retain high-quality military and civilian professionals--emphasizing their training, quality-of-life, and career satisfaction.

- Robust nuclear forces/strategic defenses. Even with sound START and CFE agreements, we will need to develop modern and survivable nuclear forces to ensure that our deterrent has the utmost credibility. We also must vigorously pursue the Strategic Defense Initiative (SDI) program, both because of the Soviet ballistic missile threat and because of the spread of ballistic missile technologies to other countries. If anything, the new

global environment makes SDI even more important. Moreover, at the lower force levels expected under START, the adverse consequences of Soviet cheating will increase. Strategic defenses can offer us some insurance against such cheating and also help discourage it.

- Versatile, ready, deployable, sustainable conventional forces. U.S. conventional forces must be able to respond quickly to diverse contingencies worldwide, and be sustained logistically once committed. Stateside, we need versatile, multi-purpose forces, and sufficient sealift and airlift to deploy them. Overseas, our forward-deployed forces should be as mobile and flexible as possible, so they can support our regional military needs, in addition to deterring aggression where they are based.

- Continued maritime superiority. The United States is a maritime nation, heavily dependent on overseas trade and resources. We therefore need sufficient naval power to ensure our access to critical sea lines of communication, especially in time of crisis or conflict. That also enables us to project adequate military power in areas of U.S. interest, with less reliance on foreign bases or overflight rights.

- Reserve forces and mobilization. Especially with our active forces shrinking, we must continue to improve our ability to mobilize the necessary national resources to meet all possible contingencies. To this end, we must support substantial Reserve forces--including essential logistics, infrastructure, and planning--and preserve a proficient, responsive defense industrial base.

- Special operations forces. The rising threat to U.S. interests of low-intensity conflict--ranging from terrorism to armed insurgencies--keeps our special operations forces especially important. Their unique contributions extend from nation-building and security assistance to participation in large scale conventional operations.

FY 1991 DEFENSE BUDGET REQUEST

The FY 1991 request for the Department of Defense is $295.1 billion in budget authority (2.6 percent below the FY 1990 level, adjusted for inflation) and $292.1 billion in outlays. That is $22.4 billion in budget authority below the President's April 1989 request, after adjusting for the Administration's updated inflation and pay raise assumptions. A reduction of this magnitude forced many difficult, though necessary, decisions throughout the Department. We have begun to reduce the size and the shape of our force structure, we have terminated those programs that are not necessary or that don't work, and we have deferred programs in order to fund others of higher priority. By taking this action, I believe that we have made a prudent downpayment on our response to the global changes taking place, while providing the necessary defense capabilities to ensure our security within existing fiscal constraints. **(Chart 7)**

Manpower

Active duty end strength by the end of FY 1991 will be 2,038,800, some 91,400 less than the 1989 level and roughly the same level as FY 1980. In fact, Army and Air Force levels will be the lowest since 1950. The ratification of a CFE treaty necessarily will dictate the level of forces in Europe. In anticipation of a favorable outcome of CFE negotiations, I am satisfied that the proposed FY 1991 force structure and manpower

reductions will allow for an orderly drawdown of U.S. forces. **(Chart 8)**

Until the Total Force Study is completed, Selected Reserve end strength will be 1,151,600 in FY 1991, a modest reduction of 3,400 from FY 1990.

Although military pay raises have been modest for the last few years and have not kept pace with changes in private sector pay, the Administration remains committed to the principle of pay comparability and strives to maintain an overall compensation program that can compete with other employment alternatives. Therefore, to protect quality achievements in the force, the FY 1991 request, along with a 3.5 percent pay raise, provides for continued benefits, enlistment and reenlistment bonuses, special pay for critical skills, and continuation of current training levels.

Civilian end strength will be 1,095,741, more than 21,000 fewer people than in FY 1989. In order to achieve the civilian strength levels without a reduction-in-force, a civilian hiring freeze has been imposed.

Force Structure

Adjustments

To move toward a smaller force with acceptable risk, the Army plans to eliminate two active CONUS divisions in FY 1991. The Navy will retire two battleships and begin planning for the deactivation of one nuclear cruiser in FY 1992 and another FY 1994; retire and deactivate three SSN-594 class submarines over and above the three planned for deactivation in the April budget revision; and deactivate two SSN-637 class submarines. The Marine Corps will begin planning for the deactivation of 14 artillery batteries. The Air Force will deactivate 14 B-52 primary authorized aircraft in FY 1990 and will close the associated support activity in FY 1991. **(Chart 9)**

Revised Program

The FY 1991 budget supports balanced strategic forces that include land, air, sea, and space based systems, as well as air defense interceptors. Land-based missiles and strategic submarines will continue at 1990 levels, and the bomber force will decrease somewhat as older B-52's are phased out.

General purpose forces in FY 1991 comprise a 30 division land force including 16 active (about half of which have reserve roundout brigades) and 10 reserve divisions for the Army and 3 active divisions and 1 reserve division for the Marine Corps. Tactical air forces will include 24 active and 12 reserve air wings for the Air Force, 13 active and 2 reserve carrier air wings for the Navy, and 3 active and 1 reserve wings for the Marine Corps. Naval forces, including 14 deployable carriers, will total 546 battle force ships by the end of FY 1991.

Readiness

Adjustments

The FY 1991 depot maintenance programs were adjusted to reflect retaining backlogs at or near previously-stated levels, for extension of congressional reductions, and for execution and other program-related impacts. The FY 1991 ship maintenance program was

reduced because overhaul of the USS ENTERPRISE was funded by the Congress in FY 1990. The Navy also cancelled two SSN-637 class submarine overhauls. Additional savings resulted from more favorable foreign currency exchange rates and adjustments to minor programs due to program execution problems, contract savings, and the impact of congressional action.

Revised Program

The FY 1991 budget supports the effective readiness of our restructured forces. Training operations are continued at the FY 1990 budgeted level. This includes Army ground Operating Tempo (OPTEMPO) at 800 tank miles annually and an air OPTEMPO of 14.5 hours per month. Navy Primary Mission Readiness for tactical air operations continues at a level of 87 percent and ship steaming days for the deployed and non-deployed fleets remain at 50.5 and 29 days per quarter. The Air Force continues to support 19.5 flight hours per month for its tactical air pilots.

In addition, increases in real property maintenance funding will assist materially in arresting the recent rapid growth in the backlog of facilities maintenance and repair. CHAMPUS medical requirements are fully funded and funding for environmental programs is increased to accelerate meeting statutory requirements and to protect the public health.

DoD Counternarcotics Program

The FY 1991 DoD request includes $1.2 billion to fund DoD's aggressive new approaches in the fight against illegal drugs under the President's National Drug Control Strategy and my Counternarcotics Guidance. The Department will continue its demand reduction program for military personnel, which has become a model for other programs. In addition, funds are requested to expand the National Guard assistance to counternarcotics efforts and expand efforts to detect and monitor airborne and maritime drug smugglers. We will also increase our counternarcotics support to law enforcement agencies.

Investment

Adjustments

Our modernization program seeks to avoid costly stretchouts, continue efficient rates of production, and promote the introduction of newer and more survivable weapons. We simply cannot afford to fund programs that do not meet performance requirements or are high cost and of relatively low priority. Needless continuation of these programs would disrupt the effective execution of our entire defense program and increase its cost to a level that cannot be sustained. As a result, we would have to buy weapons that we cannot afford at the expense of higher priority programs essential to the national defense.

Last year we recommended, and the Congress approved, termination of the V-22 Osprey production funding, the F-14D aircraft new production, the Army Helicopter Improvement Program (AHIP), the Phoenix missile, the F-15E aircraft, and the M-88A2 Improved Recovery Vehicle program. In addition, the Congress added funds to the FY 1990 appropriations to complete procurement of the Apache helicopter program, which we had planned to terminate in FY 1991.

The FY 1991 budget continues our philosophy to cut marginal programs or those nearing completion of production runs and

recommends terminating 13 more programs, reducing funding requirements by $2.3 billion. M-1 tank production is terminated after the FY 1991 buy. The Detroit tank plant will be laid away in September 1991 after FY 1990 procurement is completed and the Lima tank plant will be laid away, absent foreign military sales purchases that may occur, in March 1993 at the end of the FY 1991 procurement. The Maverick missile program was terminated after the FY 1990 buy due to the limited utility of the program. Other programs were terminated due to schedule slippages, revised requirements or poor reliability and performance. Also, some programs were terminated because viable, less costly, alternatives satisfy mission requirements. For example, the Army will rely on the Air Defense Anti-Tank System (ADATS) and Pedestal Mounted Stinger for air defense, deferring procurement of the Non-Line-of Sight Missile program and terminating the Chaparral air defense missile. **(Chart 10)**

In addition to programs recommended for termination, we are proposing to transfer $1.4 billion from FY 1990 to finance the FY 1991 M-1 Abrams Tank program and partially fund the F-15E Aircraft Program. Some of these programs include: Fast Sealift Ships; 16 MH-60G helicopters; the 155mm artillery projectile; and the Minuteman II Guidance Computer Modifications. **(Chart 11)**

Several other programs are proposed for deferral without transfer. These include funding for an icebreaker from FY 1990, the V-22 advance procurement from FY 1989, and funding for the RDX explosive production facility from FY 1988 and FY 1989. **(Chart 12)**

We also made significant reductions to other major programs. FY 1991 procurement of the C-17 aircraft has been reduced from 10 to 6 because the FY 1990 congressional reduction rendered the planned FY 1991-93 production rate increases unexecutable. Funding for the Advanced Tactical Fighter, the next generation air superiority fighter for the Air Force and the Navy was reduced, reflecting the delay in initiating Full-Scale Development (FSD). Aircraft modification programs were reduced based on poor prior-year execution, procurement program restructuring to accommodate testing requirements or installation availabilities, and program pricing adjustments. Major deficiencies discovered during operational flight testing caused the Navy to reduce procurement of T-45 Training System aircraft from 24 to 12. Also, changes were made to the pricing and scheduling of the F-15E program and the Defense Support Program. Delays in program execution led to large reductions to communications and electronics programs to reflect more accurately executable program levels.

Revised Program

• Strategic Forces. The FY 1991 budget supports continued modernization of all components of our strategic nuclear triad. Funds are requested for the 18th TRIDENT submarine and 52 TRIDENT II missiles. To provide mobility for the Peacekeeper missile, the budget includes funding for special trains, to be garrisoned at various Air Force installations. In addition, development of the small intercontinental ballistic missile is continued. For the bomber leg of the Triad, 5 B-2 stealth bombers and 100 additional advanced cruise missiles are requested.

• Strategic Defense Initiative. The budget request contains $4.5 billion for the Strategic Defense Initiative (SDI) program, an increase of $.9 billion from FY 1990. Funding is included to pursue aggressively the "brilliant pebbles" space-based interceptor program, as well as a variety of other programs such as ground-based radar, and space-based sensors. A reduced SDI program would

undermine our efforts at the Defense and Space Talks in Geneva to get the Soviets to agree to a cooperative transition to a more stable and secure deterrent posture, including strategic defenses. **(Chart 13)**

- Conventional Forces. Funding for our conventional forces in the FY 1991 budget emphasizes production of key systems at efficient rates of production. Land force modernization is supported by continued production of 600 Bradley Fighting Vehicles. Added lift capability for our assault-support forces is provided by the purchase of 72 UH-60A Blackhawk helicopters. The air defense of our ground forces is enhanced by the continued purchase of the Air Defense-Heavy system, the short-range Stinger missile, and long-range Patriot missile. Funding for naval forces reflects the importance of maintaining maritime superiority by funding 14 new ships. Tactical air force modernization continues with the purchase of 282 new aircraft, including the F-15E and F-16 aircraft for the Air Force, the F/A-18 and E-2C for the Navy, and the AV-8B for the Marine Corps. The Navy will also remanufacture 12 older model F-14A and 3 EA-6B aircraft into the current, more capable, configurations. **(Charts 14-16)**

- Special Operations Forces. The FY 1991 budget supports the key role Special Operations Forces play in protecting our national security by providing flexible, well-equipped forces that can react quickly to crises ranging from terrorist incidents to major conflicts. Modifications continue to the C-130, MH-47, MH-60, and HH-53 aircraft and related support requirements are funded. The budget also includes funds for the acquisition of weapons, ammunition, and communications equipment for these forces.

- Mobility Programs. Improvements to mobility forces support the increased flexibility required by our restructured forces. Funds are requested for 6 C-17 transport aircraft. We are also continuing the procurement of material-handling equipment for the airlift fleet. Our sealift capabilities will continue to be enhanced by procurement of floating and elevated causeways, utility landing craft, cranes, and other container-handling equipment.

- Research and Development. In the coming decade, U.S. technological superiority will become more important and even more difficult to maintain. Considering the smaller size of our force and especially the global proliferation of advanced weaponry, U.S. forces must sustain their qualitative edge and take advantage of technological progress. The FY 1991 R&D request funds research and development for technology options related to future weapon systems and provides for Independent Research and Development funds to allow defense contractors to explore new technological approaches to defense problems.

Funding continues for the advanced technology work supporting concept evaluation and design for the Army's heavy force modernization program. Development will be completed on the Block II modification package for the M-1 Abrams tank. Funding is provided to continue development on the LHX scout helicopter, including the mission equipment package and the competitive award of the Full-Scale Development contract. Naval programs such as the SSN-21 Submarine Combat System, the A-12 Advanced Tactical Aircraft Program, and the ASW Fixed Distribution System are funded. Air Force programs such as JSTARS, Medium Launch Vehicles, and the Short Range Attack Missile continue. We are also providing funds for the Balanced Technology Initiative, semiconductor manufacturing technology, and NATO RDT&E at approximately the same level as FY 1990. In addition, the budget provides $158 million for the DoD share of continuing efforts on the National Aerospace plane.

• Military Construction. The FY 1991 Military Construction program is a balanced program that funds the minimum amount considered essential to support new weapon systems being deployed, to accomplish new or changed missions, and to provide adequate working conditions for our personnel and quality-of-life support for them and their families. Major programs supported include: Peacekeeper-Rail Garrison; Large Rocket Test Facility; Titan IV Launch Pad; B-2 bomber; and Trident IID. European construction is maintained at approximately the same level as FY 1990.

• Family Housing. The FY 1991 Family Housing program continues to demonstrate the Department's commitment to improving the living conditions of military personnel and their families. The request includes plans to construct or acquire 1,249 new housing units, to improve over 10,600 existing units, and to plan and design future projects. The budget includes request to lease 52,300 overseas units, an increase of 4,900 units over FY 1990.

Base Closure

The FY 1991 request includes $917 million, an increase of $416 million over FY 1990, to defray the implementation costs associated with the recommendations and schedule issued by the Commission on Base Realignments and Closures. Over the FY 1990-FY 1995 time frame, the net savings due to base closures are estimated at $1.2 billion. This consists of one-time implementation costs of $3.4 billion, which are offset by $4.6 billion of cost avoidances, savings, and revenues from anticipated land sales. After FY 1995, annual savings are estimated to be $700 million.

In addition, the Military Departments were requested to select other facility candidates for closure and realignment, which would reduce and relocate functions and personnel positions. The list of candidates, including both domestic and foreign bases, has been provided to the Congress.

DEFENSE MANAGEMENT REPORT

The cornerstone of a more efficient defense program that is higher in quality will be the Defense Management Report (DMR) and the costs savings initiatives it contains. The Report's major thrust is to act on problems, not restudy them. It stresses integrity, long-range planning, better communications DoD-wide, strict accountability of managers for results, teamwork, and innovation. The Report sets targets for management improvement, accompanied by substantial dollar savings. The first major installment of this effort is reflected in actions taken to reduce management costs in the FY 1991 budget. We have identified initiatives that will save about $2.3 billion in FY 1991 and reduce civilian employment by approximately 7,800 and also cut military strength by about 8,600. An additional $2.7 billion will be saved as a result of Army and the Air Force implementation of financing reparables through the stock fund. Over a 5-year period, we think the cumulative savings resulting from all these initiatives will be close to $39 billion, with corresponding reductions of 18,300 civilians and 24,600 military. **(Chart 17)**

Major savings will be made in the area of logistics by better controlling the costs of supplies, repairable items, clothing, and the cost of transportation. Also, the Military Departments are planning to restructure their logistical commands and depots, thereby making substantial savings in personnel and operating costs.

A reduction in administrative costs for the Military Departments and Defense Agencies will result in significant savings. The Departments will cut back on headquarters staffs, reduce travel, and streamline overhead functions at various activities. Defense Agencies and the Office of the Secretary of Defense will also streamline their operations.

Automated support and information systems are also targeted for management improvement. Although the savings are small in the first year due to the need for initial investment, we believe the Department can save over $4.3 billion in the long-term through reducing ADP development costs and by eliminating multiple development efforts aimed at satisfying the same or similar requirements.

DoD also plans improvements in financial operations, procurement, and contract administration. The major savings in FY 1991 will result from a reduction in the use of consultants, outside advisors, and other contractually-arranged assistance. But of equal significance for future operations will be the establishment of consolidated contract management and the development of stronger controls over government-owned material furnished to contractors. Also, the Navy will begin aggregating ship procurements into larger yearly lots, without increasing the total planned buy, in order to gain economies of scale in procurement of materials.

The Deputy Secretary has directed that a number of DoD functions be studied in order to develop plans for potential consolidations or other management efficiencies. These functions include supply depots, inventory control points, maintenance depots, accounting and finance centers, ADP design and operations centers, and R&D labs and test facilities. During the coming year we will be looking for other areas to improve management, and we fully expect that the principles embodied in the DMR will enable us to develop additional savings next year, and in subsequent years.

LEGISLATIVE PROPOSALS, REGULATORY, AND POLICY CHANGES

In addition to budget actions and planned reviews, we are also developing a set of legislative proposals to foster the goals of the Defense Management Report. These proposals will involve such areas as production, acquisition and logistics, personnel, environment, and financial management. The recommended changes will enable the Department to take a number of broad ranging actions which will produce economies and efficiencies in many functional areas. In addition, I recommend that the Congress review the entire statutory framework governing defense acquisition management.

I also ask that the Congress review the number and cost of reporting requirements levied on the Department during the course of the annual congressional review. Since 1970, the number of reports and studies has increased by over 2,300 percent. In FY 1989, the total cost of complying with congressional reporting requirements was $33 million and almost 509,000 man-hours. Many of these reports are quite complex and time-consuming and divert resources from higher priority projects. I strongly believe that many of these reports are unnecessary and waste manpower and financial resources at a time when those resources are shrinking. I hope that we would be able to work together to reduce this burden.

LONG-TERM DEFENSE PROGRAM

The current situation underscores the difficulty in planning, programming, and budgeting for long-term defense requirements. Three years ago, when the FY 1990/FY 1991 budget was in its initial planning phase, no one could have forecast the extent of the changes that were to occur in Europe, nor reflected those changes in a detailed composition of future defense budgets. Since that time, the FY 1991 budget has undergone numerous changes. Its size and content are now fundamentally different than they were three years ago. The FY 1991 budget is a very important transition in the rethinking of our requirements in response to changes in the world. This budget and future funding targets are set at a 2 percent annual rate of real decline. The next step is to develop a detailed program within that guidance.

We are now working to develop a program for FY 1992-1997 that takes further account of the changes in Eastern Europe and the Warsaw Pact. The Defense Planning Guidance outlining our overall policy and military strategy for this period has been issued and the fiscal guidance for this program will reflect changing missions and force priorities. We have also begun a detailed review of the requirements for, and alternatives to, four major aircraft programs now planned for acquisition. The proposals resulting from this study along with others from my staff and recommendations by the Military Departments could lead to additional changes to our force structure. For example, it might be possible to cut 3 Army divisions, 5 Air Wings, and a large number of ships and rethink the composition of our battle groups. However, as I stated before, the adjustments we made in FY 1991 and those we will make in future years are heavily contingent upon successful implementation of negotiated force reductions and a greatly improved warning time to react to hostilities. Successful CFE and START negotiations indeed could redefine our strategic posture that exists today and could result in dramatic changes in the size and makeup in our forces. But, we must guard against making irreversible changes in advance of successful negotiations.

CONCLUSION

In sum, promising security developments in Eastern Europe and elsewhere now make it prudent for America to begin to reshape its military posture. However, we must proceed cautiously and efficiently. We must gear our defense adjustments to actual changes in the threats facing us. We must coordinate our actions with our allies and with our arms reduction negotiations. Finally, we must allocate our defense dollars to produce the military capabilities our national security requires, not to satisfy domestic political or economic concerns.

I look forward to working with Congressional leaders as we consider how best to preserve our security and extend this past year's welcome rush toward freedom, economic opportunity, and responsive government.

FY 1991 DoD BUDGET
BUDGET AUTHORITY
($ in Billions)

	1990	1991	1992	1993	1994	Cum 90-94
April 1989 Plan * (0,1,1,2,2% Real Growth)	295.6	317.5	332.4	351.0	369.4	1,665.9
Reduction	-4.2	-22.4	-32.4	-46.6	-61.4	-167.0
January 1990 Plan (-2% Real Growth)	291.4	295.1	300.0	304.4	308.0	1,498.9

* Adjusted for final economic assumptions

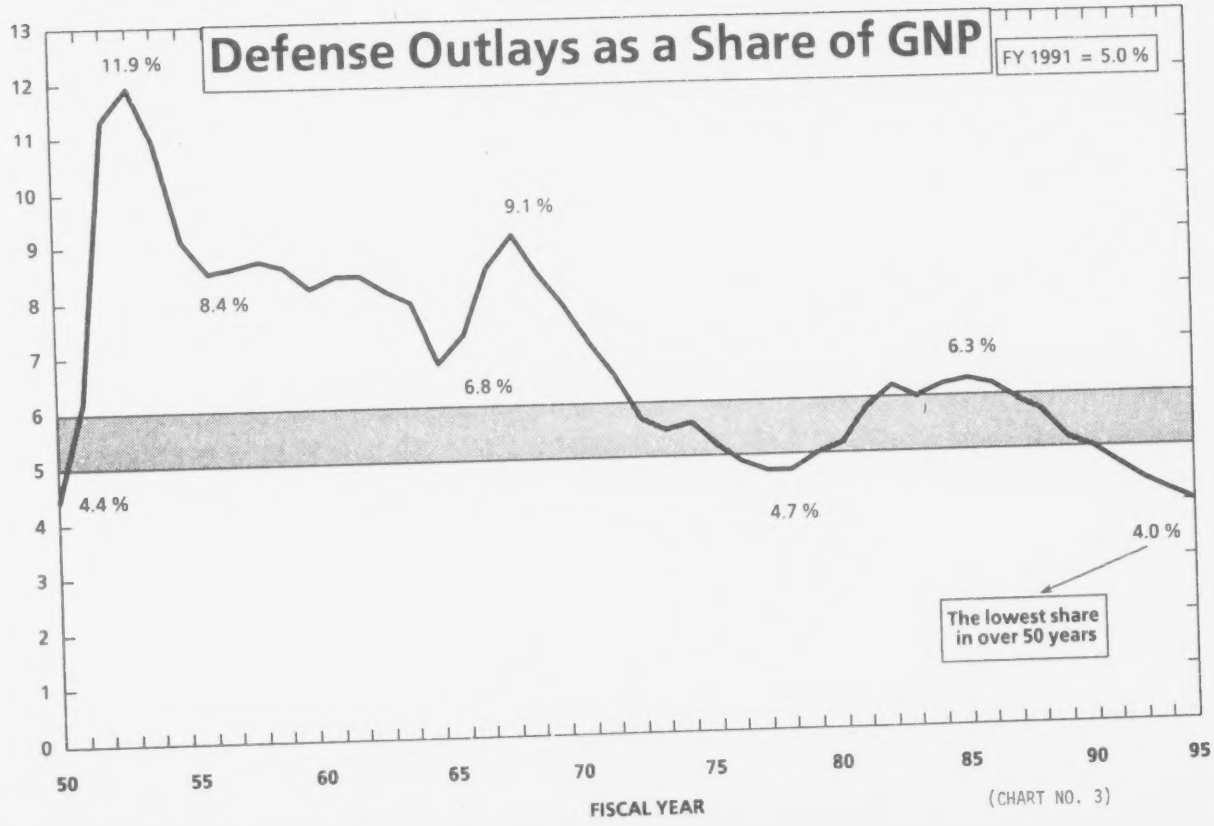
(CHART NO. 1)

CHART

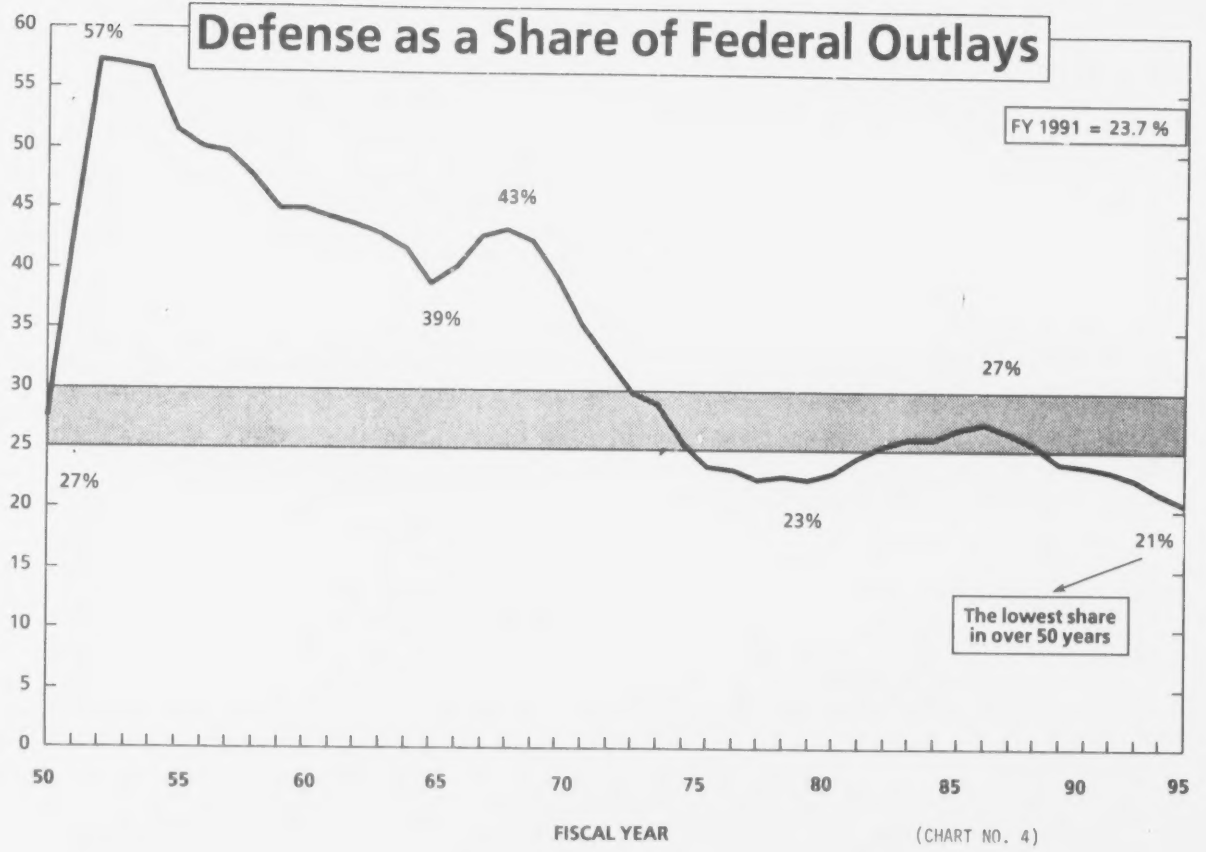
DOD BUDGET AUTHORITY
(Dollars in Billions)

FISCAL YEAR	ACTUAL /PLANNED		REAL GROWTH	
	CURRENT $	FY 1985 $	ANNUAL	CUMULATIVE
1985	287	287	-	-
1986	281	274	-4.4%	-4.4%
1987	279	263	-3.8%	-8.1%
1988	284	258	-2.1%	-10.0%
1989	291	255	-1.3%	-11.2%
1990	291	247	-2.7%	-13.6%
1991	295	241	-2.6%	-15.9%
1992	300	236	-2.0%	-17.6%
1993	304	232	-2.0%	-19.2%
1994	308	227	-2.0%	-20.8%
1995	312	223	-2.0%	-22.4%

(CHART NO. 2)


Defense Outlays as a Share of GNP
FY 1991 = 5.0 %
11.9 %
8.4 %
9.1 %
6.8 %
6.3 %
4.4 %
4.7 %
4.0 %
The lowest share in over 50 years
13
12
11
10
9
8
7
6
5
4
3
2
1
0
50
55
60
65
70
75
80
85
90
95
FISCAL YEAR

(CHART NO. 3)


Defense as a Share of Federal Outlays
FY 1991 = 23.7 %
57%
43%
39%
27%
27%
23%
21%
The lowest share in over 50 years
60
55
50
45
40
35
30
25
20
15
10
5
0
50
55
60
65
70
75
80
85
90
95
FISCAL YEAR

(CHART NO. 4)

DOD BUDGET AUTHORITY
(Dollars in Billions)

FISCAL YEAR	0 % REAL GROWTH	ACTUAL / PLANNED	ANNUAL DELTA	CUM DELTA
1985	287	287	0	0
1986	295	281	- 13	- 13
1987	304	279	- 25	- 38
1988	315	284	- 32	- 69
1989	328	291	- 37	-106
1990	337	291	- 46	-152
1991	351	295	- 56	-208
			FY 85-91 Total = -208	
PROJECTION				
1992	364	300	- 64	-272
1993	377	304	- 72	-344
1994	389	308	- 81	-425
1995	402	312	- 90	-515
		FY 92-95 Total = -307		
			FY 85-95 Total = -515	

(CHART NO. 5)

CHART

DEFENSE PRIORITIES

- PERSONNEL/QUALITY OF LIFE
- READINESS
- STRATEGIC MODERNIZATION
- MARITIME SUPERIORITY
- EFFICIENT PRODUCTION RATES
- MAINTAIN TECHNOLOGY BASE

(CHART NO. 6)

CHART

FY 1991 DoD BUDGET CHRONOLOGY

BUDGET AUTHORITY
($ in Billions)

APRIL 1989 REQUEST	311.0
REVISED INFLATION	+6.5
ADJUSTED APRIL 1989 BUDGET	317.5
REDUCTION TO MEET REVISED LEVEL	-22.4
JANUARY 1990 REQUEST	295.1

(CHART NO. 7)

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CHART

FY 1991 DoD BUDGET
MANPOWER
(End Strength In Thousands)

	FY 1989	Delta	FY 1990	Delta	FY 1991	CUM DELTA 1989-1991
ACTIVE MILITARY						
ARMY	770	-26	744	-17	728	-42
NAVY	593	-2	591	-6	585	-8
MARINE CORPS	197	-	197	-	197	-
AIR FORCE	571	-26	545	-15	530	-41
TOTAL ACTIVE	**2,130**	**-54**	**2,076**	**-38**	**2,039**	**-91**
SELECTED RESERVES	1,171	-16	1,155	-3	1,152	-19
CIVILIANS	1,117	-16	1,101	-5	1,096	-21

(CHART NO. 8)

CHART

FORCE STRUCTURE CHANGES IN THE FY 1991 BUDGET

(Dollars in Millions)

	FY 1991	FY 1992-1994
Deactivate Two Army Divisions	-1,227	-4,940
Retire Two Battleships	-75	-534
Retire Two Nuclear Cruisers	+9	+99
Deactivate 8 SSNs	-232	-105
Marine Corps Artillery Batteries	-5	-44
Deactivate 14 B-52s	-71	-246
Minuteman II	-128	TBD
WC-130 Weather Reconnaissance	+5	-
TOTAL	**-1,724**	**-5,770**

(CHART NO. 9)

PROGRAMS TERMINATED IN THE FY 1991 BUDGET

($ in Millions)

SYSTEM	FY 1991	FY 1991-1994
V-22 OSPREY	(-1,395) *	-6,468
F-14D Aircraft	(-469) *	-1,991
Army Helicopter Improvement Program (AHIP)	(-328) *	-1,400
PHOENIX Missile	(-333) *	-614
M-88A2 Improved Recovery Vehicle	(-90) *	-309
F-15E Aircraft	(+303) *	-3,317
Apache Helicopter	-682	-2,528
M-1 Tank	-1,086	-6,249
Maverick Missile	-367	-743
Air Force Airborne Self Protection Jammer	-264	-1,199
Combined Effects Munition	-142	-399
SEA LANCE ASW Standoff Weapon	-156	-975
Non-Line-of-Sight Missile	-131	-1,202
Advanced Short Range Air-to-Air Missile	-7	-46
Follow on to F-4G Wild Weasel	-12	-176
Air Base Survivability	-19	-130
Chaparral Missile	-26	-157
MK 19 Grenade Launcher	-20	-130
OV-1D Aircraft Mod Program	-37	-120
Autonomous Precision Guided Munition	-27	-114
TOTAL	**-2,976**	**-28,267**

* Terminated in FY 1990 Budget.

(CHART NO. 10)

FY 1990 TRANSFERS *

($ in Millions)

SYSTEM	AMOUNT
OV-1D Aircraft Mods	-16
M483 155 mm Artillery Projectile	-90
HARM Missile	-69
Fast Sealift Ships	-592
MH-60G Helicopter	-151
F-4G Wild Weasel	-31
Combined Effects Munition	-70
Minuteman II Mods	-76
National Guard & Reserve Equipment	-41
Military Construction Projects	-91
Other Programs	-132
TOTAL	**-1,359**

* Funds transferred to finance FY 1991 final buy of M-1 Tank and F-15E Aircraft.

(CHART NO. 11)

CHART

PROGRAMS DEFERRED WITHOUT TRANSFER

($ in Millions)

SYSTEM	AMOUNT
RDX Facility from FY 1988	-238
RDX Facility from FY 1989	-72
V-22 Advanced Procurement from FY 1989	-200
Icebreaker from FY 1990	-325
TOTAL	**-835**

(CHART NO. 12)

CHART

FY 1991 STRATEGIC FORCES

SYSTEM	QUANTITY	DOLLARS
B-2A Bomber	5	5,536
Strategic Defense Initiative	-	4,471
TRIDENT Submarine	1	1,453
TRIDENT II Missile	52	1,746
PEACEKEEPER/Rail Garrison	12	2,836
Small ICBM	-	202

(CHART NO. 13)

CHART

FY 1991 LAND FORCES

SYSTEM	QUANTITY	DOLLARS
UH-60 helicopters	72	469
Abrams M-1 tanks	225	838 *
Bradley Fighting Vehicles	600	695
Patriot Missile	817	909
Air Defense-Heavy System	220	272
STINGER Missile	6,922	252
TOW-2	13,946	272
Multiple Launch Rocket System	24,000	389

* Financed by transfers from prior years.

(CHART NO. 14)

CHART

FY 1991 NAVAL FORCES

SYSTEM	QUANTITY	DOLLARS
SSN-21 Seawolf Attack Submarines	2	3,669
DDG-51 AEGIS Destroyers	5	3,681
LHD-1 Amphibious Ship	1	971
LSD-41 Cargo Variant	1	240
MHC Coastal Minehunter	3	281
AGOR Oceanographic Research Ships	1	48
AOE Multiproduct Ship	1	416

(CHART NO. 15)

CHART

FY 1991 TACTICAL AIR FORCES

SYSTEM	QUANTITY	DOLLARS
F-15E Fighter Aircraft	36	1,845 *
F-16D Fighter Aircraft	150	2,973
F/A-18 Fighter Aircraft	66	2,123
AV-8B Attack Aircraft	24	566
E-2C Surveillance Aircraft	6	449
Remanufacture F-14D Fighter Aircraft	12	1,118
Remanufacture EA-6B Aircraft	3	374

* Partially financed by transfers from prior years ($499 million).

(CHART NO. 16)

CHART

DMR SAVINGS IN THE FY 1991 DoD BUDGET
(Dollars in Millions)

CATEGORY	FY 1991	TOTAL FY 1991-1995
Logistics/Acquisition	1,450	21,000
Administration	300	3,700
Civilian Substitution	20	500
Automated Support & Information Systems	30	4,300
Finance, Procurement & Contract Management	200	3,900
Consolidation Studies	300	5,600
TOTAL SAVINGS	**2,300**	**39,000**
MANPOWER		
Civilians	7,800	18,300
Military	8,600	24,600

(CHART NO. 17)

Mr. MURTHA. I was making a shorter version of your speech before a group of Democrats. When President Bush announced he was going to pull back 100,000 troops out of Europe, Barney Frank said to me, "I am having a heck of a time staying to the left of George Bush."

The Congress has made substantial adjustments over the years and as you know, probably 75 people at the maximum have voted against the Defense bill in the end.

So I think working with the former Secretary and Chairman of the Joint Chiefs we have come up with a package that has made America strong and retained American forces that we can be proud of.

The problem that we have from a technical standpoint is I hear two messages. I hear the message saying that we shouldn't have a hollow force, and at the same time, I hear from the White House of continual reductions. Now you are telling me this is a very tight budget. You are telling me that this budget will adjust some, but it ought to be adjusted within the amount of money that you have because we have had substantial reductions already.

Talking to Mr. Darman yesterday, he tells me that he sent up a reprogramming of $500 million for Panama. Of course, that comes right off the top.

Last year, the budget, as presented to us, said that CHAMPUS was fully funded. Well, when we marked up, we had to put $450 million into CHAMPUS and, of course, that has to come out of something else.

Now, I am looking at the weapon systems that you are studying right now, Trident, D-5, the B-2, and the MX. I see almost $8 billion in budget authority for next year, but I only see $642 million in outlays. So we really don't get any savings there even if you cut one of those major programs out in the short term.

So what we are really talking about is manpower and readiness items. In the short term, that is where we are going to have to find the money especially if we continue to get requests from the White House to cut Defense.

It is very difficult for this committee, and Joe McDade and myself in particular, when we are trying to get our fair share of the budget in the 302(b) allocation when the White House says to us that it needs money for Panama, and that may be legitimate, or other programs, like foreign aid. They want money for education and all these different items which are the infrastructure of America, which is important not only to the Members. Nobody knows better than you do what the Members' diverse needs are, so it puts us in a very difficult position to be able to defend it when you are changing continually. When I say you, I am talking about the White House changing continually the target.

Secondly, we have the demands over here which are so great and even though the spending has increased on the domestic side, it makes it very difficult for us to come up with a realistic budget.

How tight is this budget? Can you tell me that we have a budget that is not going to be changed dramatically? CHAMPUS costs are

unrealistic. We are talking about a billion dollars in outlays already.

What do you predict?

Secretary CHENEY. I would be happy to deliver the message back to Dick Darman that he ought to keep his hands off the Defense budget.

We often find ourselves in a position where we end up with absolutely vital, essential national requirements like, for example, the Panama contingency that nobody could have budgeted for, and we have to find a way to solve it.

I am totally in sympathy with the chairman's view that we need to try as much as possible to protect the integrity of the product that we have sent up here, but I have been around long enough to know that we are likely to find before the end of the year that there will be other contingencies that we are asked to deal with as well that we will have to recommend to you and Congress in its wisdom will have to decide how we are going to fund.

I would like to say—I think the budget is as tight as I know how to make it. What I have discovered over the years is that there is a great deal of creativity on the part of the Congress, on the part of the OMB and on the part of my comptroller when we get into a crunch and have to pay for some of these things.

So we have tried hard to give you the tightest budget we could.

I would be less than honest if I didn't admit that occasionally the thought has occurred to me that I need some great big new black program, very expensive, sort of stuck to the sides and periodically we go in and ding it to pay for all these various contingencies, but I am sure I would never get that past this committee, so I have never asked for it.

Mr. MURTHA. Mr. Secretary, our problem is that if forces are going to be reduced—possibly by a hundred thousand, and that is not unrealistic in my estimation, I know people will scream about it. You may have to start getting rid of people that you have contracts with, pushing them out.

I understand the Army just selected 300 lieutenant colonels and colonels out of the service today. If you don't take people in, that saves you money. It costs money when you start pushing them out before the contract time has expired. It does get even more expensive.

So in the short term, we don't really save money. It really costs money. Then we get into O&M, where reductions hurt readiness of the services.

This is why I asked the question and why it is so important for us to have some idea of what kind of leeway we have in these strategic weapons.

I know we will sit down and talk later about which one and what your study develops, but it doesn't save money. The only place this money can come from is the readiness items and troop strength and every time the White House makes a cut, it is going to disassemble this plan that you have put together.

I agree if we reduce the troops too quickly in Europe, it causes a real problem. On the other hand, there is such a clamor in Congress—there is no question the cuts are going to be made. If they

don't understand that, we are going to have a very difficult time producing a budget.

Martin Sabo is on the Budget Committee and he keeps telling me how difficult it is going to be to maintain a reasonable level for defense this year. I hear that message over and over again. It makes you kind of nervous when you go before the Budget Committee not knowing what might happen tomorrow.

I realize it is sometimes controlled by events out of our control, but this, I feel, is going to be a key year, because what happens in the future is going to be judged by how we handle it this year or we will go back to that hollow force which we are trying to avoid.

So I urge you to try to convince those folks over there that we have to do this in a rational manner or it is going to cost more money in the long run.

Secretary CHENEY. I will be happy to do that, Mr. Chairman. We had the conversation yesterday before the House Budget Committee where I tried to explain exactly what you are talking about. When we get hit for a reduction, for example, the outlay requirements of the Budget Committee or, as you say in this case, to deal with the contingencies, we always end up going back to the manpower and O&M accounts, because they are the only ones that have any significant outlay.

The net result is even if you go after and take out one of these big ticket items, the outlay is always relatively small.

Mr. MURTHA. Mr. McDade?

STRATEGIC MODERNIZATION

Mr. MCDADE. Thank you, Mr. Chairman.

I noted the emphasis that both of you placed in your statement on the budget's reaction to the obvious changes taking place in the world and that the budget is rather configured to go that way.

At the same time, as I talk to my colleagues, obviously what they see are the strategic big ticket items. When you look at the strategic forces, the items like the B–2 at $5.5 billion; SDI at $4.5 billion; Trident sub, $1.5 billion; Trident-II missile, $1.7 billion; Peacekeeper, $2.8 billion; small ICBM, $2.02 billion. They kind of jump out at Members. You have confronted this over on the Senate side, I believe.

I hear you saying that we are not ready to react to the strategic mode yet, the START agreement hasn't been signed. But what I would like you to do, both of you, if you will, is to take that strategic package and speak to its importance to the Nation as you see it as we sit here today, not try to anticipate or be a prophet about what might happen.

Why do we have to be so robust on the strategic systems at a time of declining budgets?

Secretary CHENEY. I will respond briefly, and then ask the General to go into more detail. We have made a decision over the years that we were going to do a couple of things with respect to strategic systems. One, that we were going to enter into an agreement

with the Soviets to reduce the total number of ballistic warheads roughly in half. We are close to closing the deal.

Most of our modernization programs are aimed specifically if they assume a START. That is to say, we are building systems on the assumption that there will be a START agreement, and the arms control strategy we are pursuing is in part tied to the strategic modernization program we are pursuing.

It assumes that support for START within the Department has been based in part on the assumption that we would have modernized the strategic forces left. With the ICBM leg, in terms of modernization, we are going to Peacekeeper on rail garrison and longer term supporting small ICBM. It was a decision that the President made based in part on what Congress wanted; that it would be difficult to get only one program approved, but we could get two approved.

So, we got two programs approved last year. The B–2 is tied very much to our ability to maintain the penetrating bomber leg of triad. I think it is important that we maintain all aspects of the triad. The D–5 missile and the Trident program is one of our best, most successful programs. We have solved the problem with the missile. We have had five successful test shots now, and it is performing flawlessly.

So, the programs that you have got laid out there, Congressman, are the ones that we believe are important. In many cases, they have been in the works for years and years. This is not something we just thought up in 1991 to bring up here. Congress signed off on this package just a few months ago in the Conference agreement for fiscal year 1990.

What you have in the budget is the implementation of those decisions that were made some time ago, so that it is not as though we have gone in a new direction.

The other argument, of course, is that somehow the world environment has changed and now we can go scrap these programs. The world environment has changed. What hasn't changed is the strategic situation. We are still faced with a massive, robust, very capable Soviet strategic force. That hasn't gone away. In our opinion, it won't.

We think they will continue their modernization program, that they are assuming that there will be a START agreement so they are starting to shape their force to an agreement, but that the Soviets' only claim to superpower status is that military capability, and they won't give it up under any circumstances.

General POWELL. I don't have very much more to add. I think the triad has served us well. I think it continues to be the correct strategic concept. If we are going to have a triad, it should be a modernized triad, one that can have every leg continuing to perform efficiently.

These systems are expensive, but they also tend to be useful for a very long period of time. I think over time, the cost is quite reasonable. So I continue to believe that we should make our investment in these systems.

As I am sure you know, overall, it does constitute a very large percentage of our overall defense expenditure.

Mr. McDade. I want you to comment on the former JCS chairman, their comments the other day. They said that they didn't see any need to go ahead with modernization at this stage.

Secretary Cheney. Again, I haven't talked with them directly about it. I haven't had a chance to read their testimony. I am told that it was qualified in various ways, that they generally supported the B–2. I think they generally support the Trident. I don't think any of them were critical of those programs, that there was a debate whether there should be two missiles or one missile or no missiles in terms of the MX and the small ICBM. That is their view.

I am not here today to be critical of them. I don't recall that when they were chairmen of the Joint Chiefs they were arguing against those programs.

MX RAIL GARRISON

Mr. McDade. Let me ask you this question. Do you think that Senator Nunn has changed his position? I haven't talked to Sam, but I read in the paper that he has come out and said there is no way we should have a land-based mobile MIRVed missile. In other words, the MX.

In an interview that I read, he said that we don't need two mobile missiles and the MIRVed version ought to go. What is your opinion on that?

Secretary Cheney. Well, first of all, Sam ought to speak for himself. I would be reluctant——

Mr. McDade. I am sorry.

Mr. Dicks. Would the gentleman yield? He is absolutely correct. I think the Senator said that he felt that we ought to negotiate on the SS–24 and on the rail garrison. In other words, we would give up—going to rail garrison under START, but that hasn't been our position. That is something the Senator advocated.

Secretary Cheney. Our position was for a long time, with respect to mobiles in arms control talks, we wanted a ban on mobiles. That was there forever and ever. We changed that last fall, partly in keeping with the Congressional decision at our request to go forward with two mobile missiles.

We are in a position where a lot of people who argued for two missiles are now saying, gee, we didn't really mean it. Well, my problem is I have to have some kind of continuity and predictability in the programs, and the judgment we made and the President made was that we wanted to go forward with the two systems.

Mr. McDade. That is our negotiating position in Geneva today, is it not?

Secretary Cheney. Right now, we have agreed to negotiate a limit on mobile missiles. That is, figure out that there should be a subsidy on them as part of START, but nobody has tabled a proposal to get rid of mobile missiles. That is where we were and what we came off of last year, to eliminate all mobiles.

If you look at it from a cost standpoint, and I find the more time I spend as Secretary, the more sensitive I am as to how much this cost. But the Peacekeeper always had a lot of appeal, partly because for

ten years, we wrestled with the problem of how do you come up with a survival basic mode. We finally got one, a real system. And it was cheap. We already have the missile. They are in silos at Warren Air Force Base in Wyoming. Take them out of silos, put them in railroad cars, and you have already paid for a lot of the cost of the program.

So, 1991 is the peak year of the program. A little over $2 billion in 1991, and next year we will start down in 1992 in terms of deploying that. It is the cheapest, quickest way to get the mobile missiles. You have operation and capability within about two years.

The small ICBM we put in with the understanding it would be phased in longer term. It would come in after rail garrison. It would give us another capability. To some extent, it parallels the Soviets' systems in a way, the 24 and the 25. It would give us the ability to survive, even if we only had tactical warning.

There has been this debate on how much warning time you would have and whether you would need the rail's time to mobilize. The Administration's position is two missiles. That is what Congress has approved. That is what I am here this morning, gentlemen, to support.

Mr. McDade. Speaking for myself, I agree with you. I think to begin to change our position right in front of the START negotiations is, to me, totally incredible.

Would you focus on one more thing, and then I will yield my time? You both talked about the Soviets not changing or pulling down the strategic forces, but in fact taking steps to modernize in anticipation of a START agreement. I think all of us in the room hope and feel optimistic that we are going to get one.

Would you comment a bit on what, in fact, the Soviet strategic system looks like as they modernize?

Secretary Cheney. Well, what we see, of course, is the continued deployment of the SS-25, which is now very well developed. I believe they have over 200 of them, the Road Mobile single warhead system. The SS-24 is being deployed in two versions, the rail mobile and a silo version. It is the new ten-warhead system. I believe there are over 50 now, aren't there?

General Powell. Yes ———.

Mr. McDade. Ten warheads each?

Secretary Cheney. Yes.

Mr. Dicks. Forty launchers?

General Powell. I would like to give you the right number, to make sure we give you the right one.

Secretary Cheney. It changes because they continue to deploy more. On the SS-18, they are deploying the new MOD-5 version. This is probably their best ICBM ever in terms of accuracy. They have agreed to give up half of the force. At 308 of those, they will keep 154 under START.

Because they are improving in significant ways the new version, the MOD-5 version, they are in effect compensating for part of what they give up. If they increase accuracy enough on the remaining 154 systems, they will have significantly increased the capability of the force.

You end up with basically a new missile in the A-team force. Last year, they deployed two new ballistic missile submarines, the sixth Typhoon and the Delta 4, SSBM. We believe they may have

stopped the production of the Typhoon 6. That was probably all they intended to build.

They continue to produce the Delta one a year, roughly the same rate we produce the Trident. They continue to produce the Blackjack Bomber at a low rate. So that program continues.

Mr. DICKS. What is a low rate?

Secretary CHENEY. Five or six a year.

Mr. MCDADE. Thank you, Mr. Secretary. Thank you, General.

Mr. MURTHA. Mr. Dicks?

REDUCTIONS IN THE FISCAL YEAR 1991 BUDGET REQUEST

Mr. DICKS. Mr. Secretary, I would welcome you again to the committee. I must say that I think overall you have done an excellent job. I sat through all the years when we had five-year plans that were unrealistic. The money was never going to be appropriated. I think it puts the services in a terrible position in terms of planning. I think what you have done to bring realism to it is very important and should be commended.

I, too, had a chance to go to Panama. And General Powell, I must say that I think our forces there performed admirably well. We had some Rangers from Fort Lewis, Washington who were involved, and I talked to them. They were very proud of what they had accomplished.

It shows what we have done in terms of turning that Army around and keeping it ready. I think all of us support the notion that as we reduce force structure, that we want to have these troops as ready as possible.

One of the realities we face, Mr. Secretary, and you are a skilled politician, served admirably in the Congress and under President Ford, is that we are going to cut this budget further than the Administration requests.

In the past, we haven't always had good cooperation when we had to get down to lower numbers. I would just urge you to help us if the Budget Committee makes us go below, that we would have some dialogue between you and the committee about where those cuts should be made.

My friend, Mr. McDade, has mentioned the strategic question. I have been involved in this issue of strategic modernization for the last ten years. Obviously, the strategic force mission of the United States is deterring the Soviet Union from ever considering a strike against us.

I think our strategic forces have played that role. We have modernized, kept them up to date. That is important. You have just gone through what the Soviets are doing. It is significant. It should be taken into account. But as we look at this budget and the potential necessity for going somewhat lower, and after having listened to the three former Chairmen of the Joint Chiefs and Secretary Brown, I think reasonable people can discuss at least the prospect of adjustments. We have a different force structure than the Soviets.

I am not at all upset about the Soviets going to mobile systems, because they had 70 percent of their force structure in vulnerable silos. That is not the situation with the United States strategic

forces. Over 50 percent of our forces are at sea at any time. They are mobile, highly survivable. That is in a sense our mobility.

We have our bomber force, which can be used both in a strategic and in a conventional role. That is why I happen to favor bomber modernization as a top priority, along with the Trident program. Those two legs give us mobility and survivability and the ability to use bombers in a conventional role.

So, we have to focus on ICBM modernization. In my judgment, the three former Chairmen and Harold Brown have made a very positive suggestion. With these completely changing circumstances, who could have a year ago, when we were doing this defense budget, anticipated the changes we have seen in Eastern Europe? Yes, they still have robust strategic forces, but we have robust strategic forces as we sit here today.

Especially since the Administration will not negotiate or not put on the table the road mobile system, our rail garrison for their 24, what is wrong with us asking why should we go ahead and take the MXs out of silos and go to rail garrison when those MXs are actually less vulnerable in the silos to a surprise attack than they would be in the garrison because the silos are harder. Why not defer that as this role is now changing.

Why should we rush out and do that and then maybe look at Midgetman if we need a replacement down the road for the Minuteman IIIs and go to a single system that way. What is wrong with that suggestion?

I think it would save us $6 to $8 billion on rail garrison and if we have to make cuts, that seems to me one that we ought to take a look at. The rail garrison for next year of $2.8 billion, that is a lot of money.

Secretary CHENEY. Well, I guess the best response I can give you is that that is not the decision, Congressman, that the President recommended last year or that the Congress approved. We just got through a few months ago with a conference agreement that embodied two missiles, that said we wanted to go with rail garrison first, that mobility was important, that that was the way you were going to get your survivability.

For years, I have heard the argument that having multiple-warhead missiles in the silo was destabilizing because the other side could knock a lot of our warheads out with one or two of their own. Therefore, we had to find a way to base the MX that was survivable. So, we have gone to railroad cars.

Now, it is true sitting there in its shelter, it is not as hard a target as it would be sitting in a silo. But the assumption has been that you wouldn't be sitting there in the shelter in a crisis when you had this strategic warning, when you had a few hours' notice, you would move them out on the railroad and they would be invulnerable.

Mr. DICKS. But we have the options even in the silos with our strategic warning of launching—we had a signal that the Soviets were in the air, we still could launch out from underneath that.

Secretary CHENEY. That is called the "use it or lose it" scenario, which we have learned to avoid. It has been believed that that was destabilizing, where they could ride out and attack if necessary, but they were survivable and they would be there to retaliate.

That was a valid theory four or five months ago. I don't think it has changed. If you are looking for some military justification, some new development that would now lead us to go back and sort of redo what we just got through approving a few months ago, I don't see it. I don't know what the new development is that is out there.

Mr. DICKS. It just seems to me that when you look at the whole question of strategic modernization, we are going forward with the Trident program and the D-5. We have an advanced cruise missile system to improve the bomber force. We have got the B-2, which is a very substantial program.

It seems to me if we had to make a cut, if we had to reconsider our position when you have 50 percent of your strategic weapons in highly survivable submarines, 25 percent in a bomber force that is highly survivable, that you do have a synergistic relationship that in a sense protects those 50 MXs and the 500 Minuteman-IIIs in the silos.

Mr. Secretary, if we thought six months ago that the threat of a nuclear surprise attack by the Soviet Union was remote, after all the changes we have seen, I have to think that threat today is even more remote. So we have to make some tough choices. Those MXs are still there. They still can be used. The Minuteman-IIIs are still there. They still can be used.

Mobility is important, but if we are not willing to negotiate and make a deal with the Soviets on the 24 and the rail garrison, not willing to even offer it up, then Congress will have to take another look.

Secretary CHENEY. We never said it was a bargaining chip.

Mr. DICKS. But there have been indications that there has been a dispute. Evidently Mr. Scowcroft, the National Security Adviser feels that we ought to put the 24 and the MX rail garrison on the table. Why do you oppose that?

Secretary CHENEY. You don't want to believe everything that you read in the newspaper, Mr. Dicks.

Mr. DICKS. Can I just ask for an answer to that question?

Secretary CHENEY. You know, I am in a position, Congressman, where the kind of advice I give the President on these issues really ought to be for him. Last year, shortly after I became Secretary, it became known that I was recommending Peacekeeper and not small ICBM. I recommended one missile to the President. Everyone knew about it, because it was in the newspapers. It was the low-cost option.

The President decided he wanted to go with two missiles. Congress did, and I supported two missiles.

Mr. MURTHA. This is $800 million saved if we didn't rail garrison MX and if we eliminated Midgetman? No, just rail garrison. But it is big bucks. But this is going to become one of the key issues. It may very well come down to that this year, this being the issue.

Secretary CHENEY. I have anticipated that it will be a big issue, yes, sir.

Mr. MURTHA. Mr. Young?

MAINTAINING THE TECHNOLOGY BASE

Mr. YOUNG. Thank you very much, Mr. Chairman.

Mr. Secretary and Mr. Chairman of the Joint Chiefs, again, welcome. I would like to say that this committee and especially this Member has tremendous confidence in both of you and the good job that you have already done. I am not sure I agree with all your budget presentations, but I understand how they are put together.

Throughout your testimony, both of you have talked about a smaller force, a more modern force. To me, that means things like the technology needed to make every person in uniform count for a little more than he does today. You are going to have to get more out of a small number of people. I think that is what you are saying in your testimony.

I was thinking about things like V-22, that the Marine Corps feels so strongly about. In their opinion it is a very large, effective force multiplier. I think these are the kinds of things that we are going to need to be doing.

I think you agree with that. Specifically, and this is not a very dramatic issue, it is not one of the sexy issues that will grab the headlines, but I have been worried about this for some time. I just wanted to exchange some thoughts with you on it.

On one of the charts you gave us on defense priorities, you talk about—the last bullet here, maintain technology base. Above that is efficient production rates. Maritime superiority, strategic modernization, readiness. Of course, personnel and quality of life, which are essential. It seems to me that maintaining the technology base is essential to practically everything you have talked about here. If you are going to get more out of everything you have, it has to be better.

In the last year, we have seen a lot of buyouts, leveraged takeovers, people in the defense business offering up their defense activities for sale. We see from the investment side of the House, investors who are unwilling to put their money into defense activities now that look for someplace non-defense-related because they expect the defense budget will be cut. That story goes on and on.

What worries me is if we don't have the defense capital, the investment capital, if we have people buying and selling defense companies just to make the dollar profit rather than be part of the defense industrial base, what happens to our research and development that is not the real profit-maker? Where are we five years from now if the companies that are doing strong basic research and development today are not doing it in the next year or the year after?

Where do we stand five or ten years from now on the question of maintaining our technology base if these R&D incentives go away?

Secretary CHENEY. Well, Congressman, I think you have hit on a key topic. I can't give you a definitive answer today and tell you how we are going to be able to do that. It is something we need to be sensitive to as we go through the process.

We are faced with a number of difficulties in this area for some of the precise reasons you mentioned. In recent years, we have relied upon private companies to do a lot of that basic research and development of new products, with the incentive for them being

the expectation that they would get to produce and sell a large volume of whatever it was, aircraft or whatever, to the Department.

If we are not going to continue that practice, then we run into a whole different set of problems in terms of what incentive there is for the private sector to continue to play and be a part of that, whether we should do more in-house, funded directly by us, whether there are ways to change the incentive system in the contracting system so we get more of that kind of thing.

At this point, I can't say that we have solved the problem. It is a problem that we recognize. It is one that our Under Secretary of Acquisitions, John Betti, is working on. He had a meeting yesterday with the Defense Science Board. It is a problem they are focusing on as well.

Mr. YOUNG. Mr. Secretary, are you familiar with a group being organized now throughout the aerospace industry to address this issue?

I am not exactly sure who the players are or what their plans are. They do have concerns about this. I think some of them are on our Defense Science Board.

Secretary CHENEY. I am sure they probably are. I am not familiar with the new group. We had the old Defense Manufacturing Board, which is merged. The new Chairman is Johnny Foster, who many of you know, a very talented, able guy. He has an agenda of problems to work. This is one of the problems I have asked them to focus on.

Mr. YOUNG. It bothers me, because I know it is one of the realistic things that we have to recognize, that the dollars for defense aren't going to be there now. Of course, my belief is that we spent the peace dividend the last four years, as I recall as a member of this committee, reducing seriously the President's budget request for national defense in the last four years by upwards of $30 billion a year in several cases.

So, I have an idea that much of that peace dividend has already been spent. But, as we see the demands for further reduction, we are going to have to get more for the money. It bothers me that what might be sacrificed is the research and development which I think is, as you have pointed out, one of our great edges, the technology that we have. It would certainly be a disaster for us to try to defend the free world if we didn't keep our technology a bit ahead of the other guy who can outnumber us three to four-to-one on practically everything else.

Mr. McDade asked the question that I have wanted to get into with the General on some of your predecessors, whose attitude toward the triad now is different than it was when they were sitting in your seat. I can tell you that when they sat in your seat, they were very strong proponents of the triad system.

ANTI-SUBMARINE WARFARE

I am glad Mr. McDade raised that issue. I want to expand on it a little. I think it was just in this morning's newspaper, that had commentary from someone who said maybe our ASW efforts don't

have to be as strong as they have been in the past, because the Soviets are putting less submarines into the Atlantic now.

Are you familiar with that thinking?

General POWELL. I didn't see that report, Mr. Young. I am not aware of the thinking. I know it remains a high priority on the Secretary's list of priorities within the Navy, as well as my own.

Mr. YOUNG. But you don't have any feeling that our ASW efforts should be reduced at all, do you?

General POWELL. I do not, Mr. Young. I haven't addressed it directly with the Navy, but I don't think that they would share that view, either. I know it remains a high-priority with the Secretary.

Mr. YOUNG. I have to assume that the facts are accurate in the report. That is, that the Soviets are putting less submarines into the Atlantic now. I don't know if that is true or not.

General POWELL. With their improved submarine force in recent years and the improved missiles aboard those submarines, with respect to range and accuracy, they can do a lot of the ranging that ten or twelve years ago they had to do from boxes in the Atlantic. They can do it from locations closer to the Soviet territorial waters.

Mr. YOUNG. I think that is a key point that obviously can't be overlooked. I am excited about the Berlin Wall having come down and free elections in Poland and other elections being scheduled in parts of what at this time last year were securely locked in behind the Iron Curtain.

But I am seeing some instability there. The economic problems haven't gone away because the leadership has changed or is about to change. I think of pre-World War II. I was just a little kid then. My recollection is that Hitler arose out of the instability and the chaos in Germany to eventually become what Hitler became.

I am just concerned that we can't turn our back on the instability that might be developing in those countries that were formerly Iron Curtain countries and that now appear to be coming into the realm of freedom and democratic government. But instability is, I think, a threat to us. We need to be concerned about that.

MIG–29S IN CUBA

May I ask one more question? I didn't realize time was going so fast. MiG-29s in Cuba. Tell us about that and how does that affect our policy. What do you see happening there and what should we be doing or what are we going to do?

General POWELL. Well, the Soviet Union, everything is very nice there, very benign, they are not looking for trouble anywhere yet. They have now introduced MiG-29s in Cuba. They claim it is merely and entirely an air defense capability which is upgrading an older, outmoded air defense capability which the Cubans had before.

I don't think it presents a real and present danger to the continental United States. In a way, it is fundamentally an air defense system which perhaps could have a ground attack capability. But it is fundamentally an air defense weapon system.

It is curious to us as to why the Soviet Union would continue to provide this kind of unnecessary capability to Cuba and why they find it necessary not to extend new thinking to Cuban military

modernization. The last thing they need to be doing is spending more of their very scarce rubles in providing this kind of capability to this aging communist starlet.

If I could make one other point, Mr. Young? When I evaluate a threat, it is an equation, threat equals capability plus intent. With respect to conventional forces, intent, we say, has changed. The Soviets have done some impressive things in terms of unilateral reductions.

And in terms of their intent statements, they have been acting in a very different way with respect to defense. When I look at the strategic formula of threat being a function of intent and capability, with respect to intent they are saying much more benign and peaceful things. But as far as the conventional forces, the capability factor has not changed.

While things have changed so radically in the last three months, yes, there are a lot of statements. One man decides to hold a Central Committee meeting and one man decides what the agenda will be at the Central Committee meeting. One man decides how much dissent will be allowed at the Central Committee meeting. One man decides when the meeting is over and a vote is taken and one man decides what the unanimous vote essentially will be.

Now, that is what has been changing rapidly as we watch this one man. That can also change very rapidly. I am not predicting, hoping or expecting it. I am very impressed with Mr. Gorbachev. I have been in five summit, administrative meetings with him. He is quite a performer, but he is one man.

Mr. MURTHA. Mr. Hefner?

PEACEKEEPER MISSILE

Mr. HEFNER. Thank you.

I want to congratulate you, Mr. Secretary, on the good job that you are doing. I just want to go back to the Peacekeeper MX which I have supported in the past. You made a statement about the MXs that are in the silos, and the early warning. I have always been one of those people that were a bit cynical, I guess. I don't believe that we have any intentions of absorbing a strike, looking around and assessing the damage and then launch back.

You have the MX missiles and the silos. You said if you had them on the rail cars, and we had an attack, then they would survive and we would look around and retaliate.

I guess that is one scenario, but it seems to me that is a very expensive option to have. With the technology that we have, if the Soviet Union were to launch a massive attack, it wouldn't be any secret where it is going. I just cannot believe that we would sit and absorb a strike and look around, assess the damage and say, hey, we have got to launch these MXs.

The former Joint chiefs have raised serious questions about the MX and the process. I am talking about the perception that the American people out there have. It would give the American people the idea that the Joint Chiefs say one thing when they are Joint Chiefs and they say another thing once they are out of there. This gives people a feeling that our military posture may be political?

And one other thing, this doesn't exactly relate to that, but relates to perceptions and politics. When you run for office, you are trying to portray your opponent as a guy who is not responsible. We go back and all the people see are the toilet seats and hammers and they get much more upset about that, than they do about the billions we spend.

The news reports say we have an inventory management problem. I remember a few years ago when we had that problem. We thought we corrected it with the computers.

I believe the Navy was the one that had the real problem. They didn't know what their inventory was. You said as much as $30 billion was tied up in excess parts. But this is something that when we go back to the district we are attacked by people and they want to know what is going on and what is being done to correct it. If this is a real problem, are you moving to try to correct it?

Secretary CHENEY. My compatriot here would like to say something about the MX.

General POWELL. I would like to assure you and the members of the committee that what I have said to you this morning concerning my views about mobility, what I say to the Secretary late at night when I am alone, in this case my private view and my professional view are the same.

Mr. HEFNER. I don't question your integrity.

General POWELL. I know you weren't, but you gave me the opportunity to just get that on the record in case there is any question in the minds of the American people. When you are retired, you can play with a new deck of cards every day. I can't. I believe that it is in our best interests to have our land-based leg very mobile. Our deck of cards says the politics of it looks like zero or two.

And for reasons that the Secretary has described, the current Administration's position is two. My concern as the military advisor to the Secretary of Defense and the President is that we need to have mobility in our land-based leg and that is what I have consistently said and will consistently say.

Mr. HEFNER. Let me follow up on that. I remember some of us years ago who were embarking on this tremendous buildup, we gave a warning to Secretary Weinberger that there is going to come a time when the grass roots out in the countryside are going to start questioning what we are doing, and we can only do what our constituents will let us do.

When you go to the Eighth District of North Carolina, which is one of the most conservative, patriotic districts in the country, and people come at you and question you, you can vote against any system that you want. Then you are getting in real serious trouble because you are losing your grass roots support for defense.

That is the point I want to make. People are willing to support what is needed, but they want to see that they are getting their buck's worth, and they don't see that any more. They don't see that the Soviet Union is a real direct threat to them. They see health care and all the domestic situations instead.

We talked about that yesterday in the full committee with Mr. Darman. When you find out that in 1993 if the budget is balanced, that the Federal Government is going to owe the Social Security

Trust Fund $490 billion, and we have no health program. Mr. Cheney, you know how that plays.

So I am concerned about our posture. I am concerned about the things that you want to do, and I want to make sure that when we are dealing here, we are not dealing from a political position. We are looking at hard facts and doing things that are good for the country.

BASE CLOSURES

That is why I raise these particular points. One other thing, when you made the projections on these base closure candidates, did you look at the overseas bases very closely? Were these candidates put forth before the President made his statement the other night about the further reduction of troops in Europe?

Secretary CHENEY. Congressman, I was aware he was going to move to the left. The chairman and I helped him prepare the speech and the policies, so we were deeply involved in it. On base closures specifically, we are looking very closely at foreign bases, and I made the announcements on base closures at the time that we briefed the budget this year, which was, I guess, the 29th of January, ten days ago.

At that time, partly as a response to some advice I got from some of my good friends up here on the Hill that it was important to deal not just with domestic but with foreign bases, we incorporated within that announcement the beginnings of some changes overseas.

So, there are several foreign overseas facilities where we currently have activities that we are going to shut down as well. The bases, I think, are an important part of the package. It doesn't make any sense for us to reduce the total size of the force and keep all of those bases open.

With the funding overhead, maintaining facilities, spending O&M money on facilities that we don't need, if we were to do that, I think it would be unfortunate, because we would be in a position that this build-down that I think involves shrinking everything, would become unbalanced, and we would end up with a lot of bases and no forces.

Mr. MURTHA. Would the gentleman yield? What I thought I understood Mr. Hefner to say was, you presented us with a plan to close the bases before you decided to reduce the troops by 100,000. So, there is no change in your position? Is that what you are saying, as far as the bases in Europe?

Secretary CHENEY. Right. We have not yet specifically identified bases that will come out in Europe.

Mr. MURTHA. You have not identified the bases in Europe yet?

Secretary CHENEY. No, we are talking about it internally.

Mr. HEFNER. You don't have the candidates yet?

Secretary CHENEY. That is right. But assuming we get a CFE agreement and we are able to take forces down to the level the President recommended, we will be closing upwards of 50 bases in Europe to implement that. We haven't announced them yet, but

the President's guidance to us is, don't take those forces down until we have got a deal.

But as soon as we get a deal, once we do, we will be back here to talk about which specific forces we would deactivate and which bases would be closed.

Mr. HEFNER. For the record, what percentage of your fiscal year 1991 budget is for overseas? You can give me that for the record.

Secretary CHENEY. We will be happy to do that for the record.

(CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.)

General POWELL. Mr. Chairman, Mr. Hefner raised a question and an issue that is one of the most fascinating ones to study in light of my military career. It is almost an existential question. In war games, would a President being faced with a nuclear attack launch under warning or wait and launch after attack?

I don't know what a single human being would do in those circumstances, and I watched a lot of games played to try to figure that out. What I would like to do is to never have that question posed to him.

I think one way to help not having that question posed to him would be to remove the vulnerability of fixed land-based systems such as the MX if you can get additional mobility. I think you help push that question off a little bit more.

Mr. HEFNER. Thank you, Mr. Chairman.

SPARES AND REPAIR PARTS

Secretary CHENEY. Mr. Chairman, if I might take a minute to respond to the question of Mr. Hefner concerning the spare parts and inventories and so forth, that is a subject near and dear to my heart. I would not sit here before this committee, with all the years of experience you have got in terms of overseeing the Pentagon, and tell you that we have mastered all the management problems down there, because clearly we haven't.

We have $103 billion worth of inventory. That is just what is stored, that is not the weapons, I mean that is the spare parts and the clothes and all the rest of that stuff. It costs us about $6 billion a year to manage that.

One of the major efforts we have under way with respect to the Defense Management Review that the President ordered me to deal with as soon as I went to the Department, deals with getting a better handle on the spare parts. Say we have $30 billion in unwanted or unneeded inventory, I don't think is valid. It is a lot more complicated than that.

You have to look at the specifics to get intimate. If you are going to plan for a war, you have to have a lot of spare parts. Our inventory requirements are different than any other organization. But there are a lot of things we can do to improve the operation.

We have started to do that. We have got a report, I won't bore you with all the details now, but for the members of the committee that are interested, I will make sure you each get—the committee has already received this, but I will make sure each member gets this Department of Defense justification of Estimates for Defense

Management Savings, which are embodied in this budget, some $39 million over five years.

We have a lot more to do to get a handle on it. There is no automatic, easy answer. There is no one order I can give and bang, the problem is fixed in terms of Pentagon management. There is no touchdown pass. It is three yards and a cloud of dust.

I keep working it and working it. I am convinced that the day I leave the Department there still will be more work to be done in terms of getting a better handle. But I think we are making major progress. I think John Atwood and John Betti, my Deputy and Under Secretary, are doing a first-class piece of work in this area.

If you are interested in this subject, I would commend you to take a look at what we are producing.

Mr. MURTHA. We appreciate what you are saying. We know it is a massive problem, even discounting the $30 billion, I think $8 billion might be a more realistic figure. We have been harping for several years about computers and ADP and the lack of coordination between services, the extra warehouse space.

We just have to find a way not to allow that to happen. I know, as you say, it is not easy. I think we are trying to figure out what to cut out that would get the attention of the people involved in it. We just don't know.

Secretary CHENEY. Again, the choice that I presented the services with, Mr. Chairman, is that look, either we clean up our act and do a better job of managing this kind of overhead, or we are going to take it out of force structure.

Mr. MURTHA. That is what happened now.

Secretary CHENEY. This has been a strong incentive. I think you will find that I have been generally impressed with the responsiveness. These aren't phony baloney kinds of savings. This is money that we wouldn't spend. Some 42,000 jobs will be eliminated. We can save money and do a better job of managing the Department. I think we have a good start on it.

Mr. MURTHA. I agree completely with streamlining the organization. But I am worried that we are going to expand the problem if we are not careful. You have to have a system in place before you start reducing people.

Mr. Miller.

RECRUITING COSTS

Mr. MILLER. Thank you, Mr. Chairman.

Mr. Secretary, we have had a lot of information about the troops coming home, or a part of them at least, from the European area. We, at the same time, are continuing to recruit new personnel. I understand in the budget for fiscal year 1991 there is more than $200 million. That doesn't include the military personnel that will man the recruiting offices.

It looks to me like we are going to have significant numbers of personnel coming back and we surely can't put them in the warehouse. They are living, breathing people. They have a job. It seems to me that we would have an excess after those people return, plus the fact that you mentioned you are considering closing about 50 bases overseas. Many of the bases are already closed or will be

closed in the United States. All of these bases have personnel. The American people perceive, from television and other sources, that we are going to have, maybe not peace completely, because we are going to have to carry a big stick, but at least some degree of lessened conflict. By the same token, we will have our troops pulled back because of the changes in Europe and the negotiating that President Bush has done with Gorbachev.

Now that can go a long way further than where it is at the present time. But my question is, are you looking into the level of recruiting so that we do not bring in a lot of new troops while the troops are coming home from Europe? I am not sure where we stand in the Pacific and I don't think anybody is at the present time. But, I think we should not be spending the dollars on recruitment until we find out what we are doing. The American people see it, as I say, and they may think we are not leveling with them. We are bringing the troops home, but we are still spending money to recruit, and we spend quite a bit.

Television advertising for recruiting I understand is necessary; undoubtedly, they have been contracted for. But I am not talking about that today, although I think it should be cut down. I am asking about the 1992 budget, where we are up about ten percent, as I understand, in cost of recruiting.

Secretary CHENEY. Well, I will ask the General to say a word on the subject as well, given his extensive background in forces command. The key for shrinking the force is to do it in a balanced way. If you were just to stop for two years recruiting, you would probably get down to the right end strength, but end up with an unbalanced force. You would have a generational kind of gap.

What do you do with your training facilities? Let them sit idle for two years and have them start up again? We will squeeze down the number of recruits, that will be reflected. But you still want first-class in terms of quality. You want to get the largest number of high school graduates you can get. You want them to meet the requirements that the services have.

As you continue to improve the complexity and technology of our weapons, you need people who are capable of learning and training how to do that. So, your requirements won't change that much, but you will have a smaller force, hopefully a more quality force, because we can be more discriminating.

Finally, you do have—and this may be reflected in the budget, I haven't checked it directly—1992 was sort of the trough in terms of the 18 year olds available out there. You have fewer 18 year olds at that point, because there were fewer born 18 years ago than in any other time in recent past. Then it will turn around.

After 1993, it will go up again. It may be that those plans were made in part with that expectation of that demographic trough in mind.

General POWELL. The majority of our service persons come in for three and four years and leave. Even with the reductions we are talking about, we have to replace that element of the force. We are anticipating the demographic problem the Secretary referred to. It is a function of how well the economy is doing at the point at which an individual elects military service.

But clearly, as we go down in size, we ought to tailor the amount of money going into recruiting to support that size force and not a dollar more. So I think it is something that we should review in 1991 as well as when we put the 1992 budget together.

MILITARY FACILITIES OVERSEAS

Mr. MILLER. When the troops are moved back from Europe, we will leave a lot of buildings over there, a lot of housing quarters. We have upgraded, in West Germany, quite a number, I believe that it is complete now, of housing quarters. There is no way we can bring the brick building back, but we also have the hangars, American schools, and other facilities our military families are using.

I understand in the budget military construction is equal to the amount of dollars that were spent last year. Now, should we consider that and take a good look at it? Are you having your people look to see what we are doing? If we cannot move them back and we have to leave them, then at least we should not be building more at the present time and in this coming year.

Secretary CHENEY. Well, Congressman, I had a meeting last night with General Galvin, our Supreme Allied Commander, Europe. We talked about these issues. Nobody has yet sorted out the enormously complex set of requirements that are going to have to be considered before this kind of transfer.

It is easy to talk about manpower and then you start to talk about equipment. We get into the situation of talking about these facilities which we have been talking about since the spring of 1945.

It is complex sorts of problems that we are going to have to address. Whether or not there would be some compensation for some things, what we would want to talk with us, how they reorganize on the ground in Europe, taking into account that we would probably want to retain the use of the newer facilities and give up the older facilities. They will take detailed planning in Europe.

The question of military construction is an important one. It is why I have imposed a 90 day freeze on letting any new contracts in the MilCon area, so the services can sit down and take a look at what their requirements will be long-term, and start to factor into account these kinds of considerations so that the MilCon program begins to mesh with these longer considerations, such as taking down troops of Eastern Europe. That freeze is in place now and has six or seven weeks to run.

REDUCTION OF FORCES IN THE PACIFIC

Mr. MILLER. One other question, Mr. Secretary. I understand in Japan and Okinawa, the Philippines, and South Korea, we have about 110,000 servicemen and women. Do you look at that area of the world as an area where we will also be able to pull some of the troops home?

Secretary CHENEY. Congressman, I leave Saturday morning on a two-week trip to Japan, Korea and the Philippines, and will be talking with our allies in that part of the world about our deployments, reviewing the entire situation with them, the strategic situ-

ation, whether the threats change to diminish, those kinds of issues will come up I am sure during the course of my talks.

I think it is important to realize that we have not seen the kind of fundamental change in the military environment in the Pacific that we have seen in Europe. While I think it is always possible to make improvements in terms of the relative effort we make versus our allies—certainly we are going to be looking at our deployments out there—I wouldn't want to say this morning absolutely we are going to do X. No such decision has been made. We have to consult with them as well.

In addition, we are doing a study mandated by the Congress last year to study our whole force deployment and posture in the Pacific and Asia. We are in fact working on that. We expect to finish in the spring sometime, and we will get that up to the Congress as quickly as possible, and that would include incorporating some of our thoughts and ideas about what we might do differently in the Pacific.

Mr. DICKS. Would the gentleman yield?

The Pacific forces can be an example of what might happen in Europe later on because I think those forces in the Pacific have played a reassurance role to all the countries in that region, in a sense helped keep peace in the region.

I think that may be an example of what our residual forces in Europe may be all about. People say, why do we have to retain forces in Europe? Because of the necessity to ensure that there will be peace and stability in the region. I think that may be one possible way to explain this to the American people.

Secretary CHENEY. I think you are right, Congressman. One of the things that I am convinced of is that in various places in the world, there are nations that don't engage in hostile or threatening behavior or in massive arms build-up because we are there, because they trust us and if we were to pull out, there would be a vacuum that might tempt them to do things that would not be in their interest or our interest. That is exactly the kind of function I think we perform in many places in the Pacific.

Mr. MILLER. Thank you, Mr. Secretary, and General Powell.

Mr. MURTHA. Mr. AuCoin.

NATIONAL DEFENSE STRATEGY

Mr. AUCOIN. Thank you, Mr. Chairman.

Mr. Secretary, General Powell, it is good to see you and I welcome you to the committee.

Secretary Cheney, for years I have supported, though I have opposed some programs, but for years I have supported some of this administration's most controversial programs including the B-2 and a program that is becoming controversial with some within the Congress, and that is the Midgetman. I have done that, but my support for a number of these programs is going to hang by a pretty thin thread.

The only way I can see that the administration is going to be able to keep my support for programs of the kind I have mentioned is if I can be convinced that B-2, Midgetman and others are part of a coherent strategy that is fixed in the real world and makes sense

for the world we face today, not sometime in the past, and the world we will face tomorrow.

I have to tell you, Mr. Secretary, when you come to the Congress and state, as you did on January 29th, that this moment in history is not a time for a new strategy, that tells me that then we have got to pursue two new modern ICBMs. We have to have two modern bombers, one of which has already been built. We have to have SDI. When you do that, you are cutting into that thread for me.

The sheer difference in the world of 1990 and 1991 and the world of 1985 when a lot of these programs were conceived and began to get their momentum, that difference is staggering by any conceivable measurement.

It seems to me that any reasonable reading of history shows that history has a word for nations that try to live by obsolete strategies, and that word is "loser." They end up losing either because they spend themselves into economic enfeeblement or they lose in some other way. A loser nation is not what my constituents want.

I come from a conservative district and my constituents don't want a loser nation and are amazed to see a budget request based on strategies that haven't changed in this time. So when I hear you are going to stick with essentially that strategy, which I don't think was good even when conceived, you are telling me Congress is going to have to pick up the ball and try to work a strategy itself. That is my statement.

I have a question that fits into that. One of the most conspicuous problems with an obsolete strategy that is still before us that is being pursued, and it is very conspicuous, is battlefield nuclear weapons. We don't have the money to throw away at a time like this, money on developing weapons that we are never going to deploy.

You have a large request in this budget for new short-range nuclear weapons to replace Lance, to defend European allies, to be placed on European soil. Where are you going to put it? Which of our European allies has asked for it?

You can respond or the General can respond, but I think that is a good specific example of the overall picture that I am trying to paint for you today.

What about battlefield nuclear weapons? Why spend the money if we don't have a place to put them?

Secretary CHENEY. Let me respond to your opening statement by saying I think you are dead wrong, and if you had been here at the beginning of the hearing, you would have heard my and General Powell's presentation, and I think that would have reassured you that we are aware that there are changes under way in the world and we have prepared a package and the president has submitted a package to the Congress that does in fact reflect those changes.

I listened to your statement. Now it is my turn to respond.

The question about losers I find offensive. I think the fact of the matter is that the American people have been winners because of the strategy we have pursued for the last 40 years; because of the commitment we have made with respect to building the kind of defenses and the military capability that has defended freedom and protected our interests around the world.

So I disagree with your statement at the outset and I want the record to show that.

With respect to follow-on to Lance, we are part of an alliance and that alliance has been an extremely important part of our security for the last several years. Last May the alliance, when the heads of government met in Brussels, took a position with respect to the so-called comprehensive concept that embodies the alliance approach to theater nuclear forces, battlefield nuclear weapons. That policy basically says that those kinds of forces are an important part of our strategy.

The need to maintain them across the broad spectrum of capabilities and to modernize them is a part of the alliance strategy. That once we have completed a CFE agreement, we will then enter into negotiations on the future of short-range nuclear forces in Europe. That is the policy today.

The U.S. in support of that policy is investing in the R&D on the follow-up of the Lance. That is the strategy. If it is going to be changed, which it may well be, it ought to be done in conjunction with the alliance. It should not be done unilaterally by the United States. So that is why the budget reflects that particular item.

Mr. AUCOIN. Is there an ally in Europe who has asked for that?

Secretary CHENEY. The British are big supporters of it. There are six separate nations in Europe that have the original Lance and the decision about deployment of Lance, as was agreed to last May within the alliance, will be made in 1992.

That is the current policy. We support the policy. If it is going to be changed, it has to be changed within the alliance.

Mr. AUCOIN. Would it be based in Great Britain in the first place?

Secretary CHENEY. I don't think there are any of them in Britain at this point. It doesn't have the range. The Brits host other nuclear weapons.

Mr. AUCOIN. Then dealing with those countries that might be the place where it would be positioned, are there any that have indicated that they would accept it?

Secretary CHENEY. They have signed on for the policy that I have described, that is the alliance policy, and I don't believe if you are going to be part of an alliance it makes sense for us to make unilateral decisions without consulting with our allies that change alliance policy.

Obviously, all of these issues are going to be looked at and developed in light of what we have seen happen in Europe in recent months.

STRATEGIC DEFENSE INITIATIVE

Mr. AUCOIN. My impression is it is like nuclear waste in the United States; everyone wants a repository, but they don't want it in their own state. That is what I see when it comes to follow-on of battlefield nuclears in Europe.

Having to do with SDI, I returned late last night from visiting a number of SDI labs. One question I asked at every lab is how they are going to protect their space assets from Soviet close-orbiting space mines as a counter measure to SDI assets. And in every case,

with the exception of Brilliant Pebbles, the only answer is that they are going to shoot the space mine if it orbits too close, that the United States would attack Soviet assets in space in peacetime because they are close.

That is a shoot-first policy and it seems to me that is like saying if a Soviet cruiser at sea comes near one of our carriers but commits no hostile act, but is close, we sink it. We don't do that at sea, but that seems to be what is being contemplated in space.

If that is so, has a radical departure from international standards particularly as it applies to freedom of the seas and space is not the province of any one country, yet SDI is spending millions of dollars on the presumption that we are cleared apparently to shoot first.

Has the President, has the administration approved a shoot-first policy as it is contemplating its SDI strategy?

Secretary CHENEY. At this point we haven't even deployed strategic defenses yet. We are still in the stage of research and development. If we get to the point where the President makes a decision to deploy, we will be back to the Congress. This is the kind of policy decision that would be considered at that time.

The labs, as capable as they are, don't make these kinds of policy decisions. Nobody addressed that issue yet from a policy standpoint. There has been no need to.

Mr. AUCOIN. You mean we are thinking about putting assets up in space without thinking about how we are going to deal with the countermeasures that could take them out?

Secretary CHENEY. We spend a lot of time thinking about countermeasures.

Mr. AUCOIN. Then you have to think about whether there is going to be a shoot-first or some other kind of response to a threat like a space mine.

Secretary CHENEY. I am telling you, Congressman, that these are the kinds of issues that will be addressed when we get to the point where we want to talk about deploying a system. But you have a very hypothetical situation. The Soviets don't have any space mines at the present time, so we haven't spent a lot of time thinking about space mines.

Mr. AUCOIN. If that is a question we would address at the point we were thinking about deploying the system, that seems to me that it postpones the consideration of development of potential counter-countermeasures that could be deployed at the time of deployment. I can't understand how we would go so far down the stream without having at the ready the means to defeat countermeasures.

Secretary CHENEY. All I can say is that we have got a very active research program under way, that that program looks at all aspects of the possibility of being able to deploy strategic defenses, that I am confident that before we would come back to Congress and ask for authority, which we are not doing today, to go forward with deploying a system, those kinds of issues will be addressed.

Mr. AUCOIN. Thank you.

I want the record to show that in none of the briefings I have had on SDI were there any hardware programs leading to any

IOCs on systems that would counter-countermeasure systems that the adversary conceivably put up in response to SDI.

With the exception of Brilliant Pebbles.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Livingston?

Mr. LIVINGSTON. Thank you, Mr. Chairman and Mr. Secretary and General.

I want to congratulate you both on your performance over the last year and tell you that as one who was also in that delegation to go down to Panama and who also attended a hearing just today on Panama, I think our troops performed superbly.

They were not the troops of a loser nation, they were the troops of the protector of the free world and the free world is now spreading around the globe thanks to troops such as those who performed in Panama and many others like them, so I want to thank you for your efforts.

I might also tell the gentleman from Oregon that I am glad to hear that he is acknowledging the Soviet capabilities of developing space mines because I would classify space mines as a form of ASAT or anti-satellite and it so happens that the gentleman spent a lot of time and energy keeping this Nation from producing ASATs or anti-satellites on the premise that the Soviets don't have the capability of producing ASATS.

Mr. AUCOIN. Would the gentleman yield?

First, for the record, nothing in my statement indicated I desire a loser nation. I want to prevent this nation from becoming a loser nation.

The thrust of all my work on the ASAT question over the years is to keep out of the hands of the Soviets ASATs.

Unfortunately, the gentleman's position would ultimately lead to an ASAT arms race which would give them ASAT capability, which might even defeat one of the gentleman's favorite programs. brilliant pebbles.

MARITIME SUPERIORITY

Mr. LIVINGSTON. It is all in the eye of the beholder, but I think once we start talking about land mines, the cat is out of the bag, and we better start making contingency plans.

Mr. Secretary, one of your lists, items on your priority list, of course, is maritime superiority, and yet in fiscal year 1990, we have seen that your office has deferred $600 million that was added by this committee for sealift capabilities and I just wondered how the two efforts are compatible?

Secretary CHENEY. Well, the desire to maintain maritime superiority, I think, is very real, Congressman, but our problem is budget, obviously, and we have had to reduce the size of the Navy. We think we can do that safely. We thought we could defer the appropriation on sealift safely in light of current requirements.

It may be that we will identify a need to do even more than we have already with respect to sealift, but given what has happened in Europe, we felt that was a decision we would postpone until things settle down over there and until we get more information on warning time and how we might alter our strategy in NATO.

I think at that point, we might come back and readdress it, but what we were looking for were to find ways to take some of the funds that were appropriated in 1990 and defer into 1991 in order to finish out the buys and some of the money that was in the fast sealift account we recommended be used to complete the buys on the M-1 and the F-15 Eagle fighter.

TRIDENT SUBMARINE PROGRAM

Mr. LIVINGSTON. With respect to fiscal year 1991, you have said that potential outyear reductions would be identified if we ratify CFE and START, and of those potential adjustments, are a reexamination of our Trident program and other ship construction.

Does the same answer hold true? Is that based on contingencies?

Secretary CHENEY. The reference to the Trident program goes to the question of what kind of force we want after START. The decision will be exactly what mix we want of Tridents versus land-based ICBMs, versus bombers in that post-START environment. We are getting close to where we think we are going to want to be. We have the money, I believe, for the 18th Trident in the current budget.

That decision is going to have to be made probably within the next year or two and it might even be in the 1992 budget. It is a big decision because it has a significant impact on force size and structure within the Department. The Air Force has its view of what the mix ought to be. The Navy has its view of what the mix ought to be. We haven't resolved that yet.

Mr. DICKS. Will the gentleman yield?

I think, Mr. Secretary, you ought to give us the decision earlier than a year from now. We are going to have a START agreement in June or July.

We need to know up here because when you start adding up the number of warheads on those Tridents, you are at the margin right now.

The Congress is going to want to know what the Administration decision is about the split between the Air Force and the Navy, and I don't think you can defer doing that.

Secretary CHENEY. The point is that START is the pacing item in making that decision. As soon as we have a START agreement, we are going to be in a position to make a decision. It is not as though we are trying to withhold the decision from the Congress.

One of the provisions we hope will be in the START treaty will be a discount that will allow us to have two or three submarines that don't count that are in overhaul or laid up, that if, for example, we had a force of 20 or 21 submarines, only 18 of them would count at any given time in the START totals.

There has been some preliminary discussion in the negotiations. We are not at the point yet where we can make a decision to shut down Trident production. We will be in the next couple of years, and we will get back to the committee as soon as we get our decision.

Mr. DICKS. They were talking about going every other year?

Secretary CHENEY. That has been talked about, yes.

REDIRECTION OF FORCES IN THE PACIFIC

Mr. LIVINGSTON. You responded to Mr. Miller that you were going to the Pacific Rim and to the Philippines presumably and to other areas out there and that you are going to be making decisions based on your findings and your discussions with those folks out there.

We have 110,000 troops stationed between Japan, the Philippines and South Korea, and I wondered if you had any predispositions before you went over there as to what might be the outcome of the ultimate decision by this country to deploy those troops; and secondly, would it be influenced by the press reports that the Soviets intend to withdraw from Cam Rahn Bay in Vietnam?

Secretary CHENEY. I have seen the reports that there are prospects that the Soviets appear to be pulling down forces at Cam Rahn Bay. They may suggest that might justify shifting our position in that part of the world. I don't think it does. I think we have reasons to be there whether the Soviets are there or not.

The big question, of course, in the Philippines is base negotiations, and we don't yet know how those are going to sort out. The discussions and negotiations should begin shortly, but that will have a big impact on our deployment in the Philippines and how long we can stay and at what levels.

With respect to Korea and Japan, I want to discuss with our allies there how they see developments. Both Korea and Japan are doing more with respect to their own level of efforts. The Japanese are increasing their defense budget this year when everybody else is cutting theirs.

The Koreans are doing more in terms of spending as a percentage of their gross national product. As their economy improves, they should be able to do more. Those are conversations that we will have with them.

I think the important thing that people in that part of the world need to know is that the United States commitment is firm, that we value very highly those alliances, that it is in our national interest as well as theirs to be there, that there may be discussions ahead of us in terms of what kinds of forces are required, what level of support, et cetera, but there shouldn't be any doubt in anybody's mind but what we are in that part of the world to stay.

Mr. LIVINGSTON. With respect to Korea, they are faced with the same threat by the same man who 40 years ago went South with all of his troops and now he is better prepared than he ever was, Kim Hoo Sung.

The impression I have is that before we make a final decision to pull out troops, that we should talk to to South Korea.

It is a matter of negotiation and bargaining and I think that they would be willing to up the ante in order to keep us there because they feel so strongly that they are threatened from the North.

Secretary CHENEY. I think you are right.

Forty years ago we had major problems in Korea because there was a decision prematurely to withdraw, and I think it created instability and tempted the North to invade the South and we

paid a significant price to get back in there and restore stability and protect the integrity of South Korea.

We don't want to jeopardize that.

It is a question of making adjustments, not a question of whether we are committed or going to stay committed.

Mr. LIVINGSTON. I would like to talk to somebody on your staff about comments I got about Clark Air Force Base in the Philippines. They are interesting. I don't know how accurate they are, but they are interesting, and they should be reviewed by you before you go over there.

Secretary CHENEY. I will get somebody up.

Mr. MURTHA. Mr. Sabo?

FISCAL YEAR 1991 BUDGET REQUEST

Mr. SABO. Mr. Secretary, General, welcome.

Our problem as we deal with this budget is the public perception of where we are. Clearly, they perceive incredible change in Eastern Europe. They also read that when we most recently sold our bonds interest rates were unexpectedly higher, and we discovered that we had buyers in part because the Japanese Central Bank told people to buy. They could just as easily have said the opposite and we would have really been in trouble. I think it is fair to say most people today are much more worried about our long-term economic well being than the Soviets marching through Eastern Europe.

We also deal with this budget in the context of every other part of the Administration's budget. The reality that we face is that the core of the President's proposal to meet the Gramm-Rudman-Hollings target is a whole series of cuts in entitlement programs or in new revenues. I find it hard to believe that that core of $28 billion is real. Fourteen billion of it are cuts in entitlements.

I came to the office today and there was a letter addressed to Congressmen Leon Panetta and Bill Frenzel signed by 160 Members of Congress, 110 Democrats, 50 Republicans, saying, "Don't cut Medicare in the fashion the President has suggested." That is $5 billion. I suspect it won't happen.

I have not heard from any retired military personnel suggesting to me that we should adopt the President's proposal to suspend their COLAs so that we can fund this defense budget. As a matter of fact, I haven't heard any retired civilian DOD personnel tell me that we suspend their COLA so we can pass this budget. I haven't heard from any current employees that we should modify their health care benefits. We have rejected a whole series of similar recommendations in the past, so that would tend to make one believe they are not likely to happen this year, either.

That means that we have to find that money elsewhere.

I have not heard many creative suggestions for cuts in entitlements that have any practical political possibility of passing.

The revenue side of the package includes many user fees, which have come to the Congress regularly and not received any significant bipartisan support. I am led to believe that the core of how we get to our Gramm-Rudman target is a series of recommendations that would have minimal support in this body.

Any of us can put a budget together that can maybe get 50 or 75 votes. Our problem is to get something that gets a majority. So clearly we are going to have to do a major revision simply to meet the fiscal realities we face this year, let alone before we start dealing with the concern of people who think there are significant domestic needs, which there are, which we haven't dealt with and which aren't dealt with in the President's budget.

I expect we will have our normal fights over the big ticket items. We will have our internal scrap in the House, between the House and the Senate, between the Congress and the Administration.

I think all of us know that the choices involved are relatively low in outlays this year, but they have serious policy implications and involve significant dollars over the next three or four years. But to get the dollars we need, as the chairman indicated, involves some of the nuts and bolts operations. I would just hope as we proceed that we do receive your counsel there.

Clearly, troop levels have to go down significantly deeper than you had suggested. I hope we have your suggestions on how we can do it in a fashion that is fair to the people involved. I suppose it is related to base closings, which is an issue we are to face.

My own judgment is that proceeding with the CFE talks and concluding them is important. It may be debatable whether events have moved faster than our negotiations. I think it is still important that we get that initial round of negotiations concluded, to have a treaty certifying limits on troops and a limit on various weapon systems. Installing the various inspections systems, I think, also is important.

I think that the pressure in the Congress, however, will be to withdraw more troops out of Western Europe pre-CFE. My judgment would be that will probably not be wise for us to do so, but the implication of not doing that is even deeper cuts of troops at home. I expect that creates some political problems.

I hope we have your suggestions as we go along. But clearly, the dollar amounts are going to have to come down significantly. I hope we can do it in a thoughtful fashion and also in a fashion that doesn't complicate the possibilities of having the CFE treaty signed this fall.

Secretary CHENEY. May I respond generally to a couple of your points, Congressman? Obviously, having been a member of this body for ten years, I have enormous respect for the wisdom and good judgment of my former colleagues, and I would not come here today and say we have achieved perfection on our submission and that it can't be improved upon or that it won't be changed.

But, obviously, we are here to support the President's budget and specifically the one for defense, and generally the other ones, although I was not involved in preparation in the non-defense portion of the budget.

Mr. SABO. If I might just add, at least from my perspective, I take seriously the specifics like the DOD budget only to the degree that the overall budget is serious. I have a tough time when I look at how we try to get to our $65 billion deficit target. The overall budget is not serious.

Secretary CHENEY. I would argue it is a serious budget. I know the President and his advisors, Nick Brady and Dick Darman, have

worked hard on it. We spent an enormous amount of time putting it together, and I think it deserves consideration. If it is to be changed or takes another form, then obviously Congress is in a position now to take the suggestions and improve upon them.

It isn't going to be easy. We used to wrestle with them when I was up here. We still do.

On the proposition that no one is coming forward saying take my COLA, it is also true that no Members are coming forward saying, take my base. That doesn't mean that I shouldn't recommend base closings. I think they are an important part of our stand here. I know it is a difficult proposition, but the fact of the matter is that we probably have more bases out there today than we need, and the work at the Base Closing Commission just passed, I think was a good product.

I have directed them to provide those recommendations, that we come up with some additional reductions in light of the kinds of changes that we are talking about in our overall structure. I will be asking for legislative authority to waive some of the requirements that I currently have to comply with in terms of closing bases, to speed up the process.

Some of the Members up here, including the chairman of the authorizing committee have, I know, already talked about that legislation. There is talk about creating a new Base Closure Commission. I don't mean to be rigid and inflexible. We will work with the Congress the best we can.

As to the general proposition of have we got cuts in our pocket that we can lay out now and change the current package? The answer is "no." Will we work with Congress as you go through this process? Certainly. We will do everything we can over the course of the next several months.

I have had a close working relationship with this committee in the past, as a Member, and I think last year as Secretary. I have been delighted with the cooperation I have received. While we don't always agree, we have always been able to work out our differences.

Last year's bill was good and satisfied the security requirements. I am confident that we can do the same thing this year, although it won't be easy.

BASE CLOSURES

Mr. SABO. I think it will be tougher. I am curious. How much additional money is in the 1991 budget for base closings?

Secretary CHENEY. Well, in terms of putting money in it for 1991, there is money in the budget with respect to the 86 that we start closing down. It costs money to close bases.

Mr. SABO. I understand.

Secretary CHENEY. So we have money in there for that purpose. Quite a bit of money.

Mr. SABO. I am curious about the new ones.

Secretary CHENEY. Let me explain. The new package includes two categories of closings. First there are base closings identified with defense management improvements that we have decided on. There

are six air bases that house Air Force Logistics Command facilities, and part of our proposal is to streamline the Air Force Logistics Command.

We take out about 10,000 jobs, and that requires realignment at those bases. Those closings or realignments we want to start in fiscal year 1991. So, we have already made a decision on these, we know what we want to do.

The other category includes candidates for closure or realignment that have been recommended by the services. For these, I have to undertake studies, environmental impact statements, economic studies, studies as to how it will affect military operations—about six different categories of studies.

A year from now, I will come back to Congress with those bases, with the studies done and say here, gentlemen, this is what I want to do. That package then has to lay over before the Congress for 60 calendar days for Congress to consider it, and if they want to block it or reject it by passing legislation that would prohibit it.

Now, that is the current process and current law. It could get changed this year. The soonest there would be any full reductions in terms of what I have recommended over and above what we have already done will be late in fiscal year 1991. So, you are talking about 18 months, if everything goes smoothly.

Now, I have been around long enough to know that base closings never go smoothly, and it ends up in lawsuits. But that is the basic procedure.

POLITICAL IMPLICATIONS

Mr. DICKS. On this question, Mr. Secretary, what is your guidance, was there any guidance?

Secretary CHENEY. Yes, I said give me some.

Mr. DICKS. That was the end of the guidance. There has been an insinuation there. I would like to ask this question of General Powell. I frankly don't believe it, although the numbers here are pretty amazing. I am prepared to accept what I heard you said before when we talked about it personally that political implications did not enter into this.

I want to ask General Powell, in your judgment, in your personal, professional judgment, were there any political instructions here about which bases to be closed?

General POWELL. No.

Mr. DICKS. As far as you are concerned, each of the services submitted a list on the merits and that there were no overtones or political guidance given here?

General POWELL. No, none at all. Each Service was asked just the way the Secretary said. The fun began. The Chief and the Service Secretaries consulted. They provided a list to the Secretary which he consolidated, and I only saw it at that point.

Mr. DICKS. Were there any changes made in that list? Were there bases on the list that came from the services that were changed at the OSD level?

General POWELL. I have no idea. I saw the list after the Secretary had consolidated it.

Mr. DICKS. Mr. Secretary, were there any changes made in the recommendations that were offered up by the services?

Secretary CHENEY. Yes, there was one change made; it involved a foreign base. I dropped it off the list for the time being, after consultation with the Defense Minister there who had a special problem he wanted to address. That was the only one not released. Let me, if I can, just elaborate a moment on the question.

The charge has been made that somehow this was a political hit list or we went after Democrats. We really didn't. What I said to the services after we went through the planning process that the chairman, and I sort of supervised, saying let's look long-term at where we are going and ended up talking about taking five wings out of the Air Force and five divisions out of the Army.

I then said, go back and look at your base structure and give me your recommendations as to how you would change your base structure to fit with this. That is what produced the list of candidates.

With respect to some of them, I am sure that it is a direct reflection of the decision that they would like to close a particular base. I would not, though, argue that there may well be some cats and dogs in there that they always wanted to get rid of or there may be some facilities that they don't like for one reason or another, and this is an opportunity for them to throw them on the table. That is possible as well.

In many cases, especially when we are talking about the Defense Management Review bases, it is driven by another consideration. I mentioned the Air Force Logistics Command. It has six bases. I don't control where the Air Force Logistics Command is located. Five of those six bases are Democratic Districts. One falls between a Republican and a Democrat District.

Now, there is no way I can deal with the Air Force Logistics Command as an entity without having a heavier burden fall on Democratic Districts than Republican. In California, it has been alleged that it was hit hard. It was. But about one-six of the domestic contract awards are made to firms in California.

Texas got hit hard. If you look at the lineup in the Senate, Republican Senators got hit harder than Democratic Senators. It was not an effort to torpedo my former colleagues and, I hope, still friends on the Democratic side of the aisle in the House.

Mr. YOUNG. General Powell, I appreciate your response to Mr. Dicks on whether there were political decisions involved, and I believe your answer is exactly right. But I would like to expand on the question. Were there any attempts by political figures to influence——

General POWELL. In the Administration or in the legislature?

Mr. YOUNG. Any political figure.

Secretary CHENEY. There have been a lot of attempts since the list was released.

REDUCTION IN FORCE STRUCTURE

Mr. SABO. When did that process start? I am curious about your assumptions in troop levels that led you to the particular recommendations on base closings. For the record, could you supply us with your projections on troop levels? We have your documents to

the end of 1991. If we could get that through the next five years, that would be helpful.

Secretary CHENEY. Sure.

(CLERK'S NOTE.—The Department was unable to provide a response in time to be printed in this hearing volume.)

Mr. SABO. I assume that was the basis upon which these closings were based, or is it not?

General POWELL. I would like to make one point, if I may, Mr. Sabo. The base structure we have now is too large for the existing force structure. If we were not going down in size, we should still take a big whack there. We have single-mission installations that we don't need to keep. We should take the single mission, move it somewhere else, and close that place.

So, in the environment we are moving into, the situation isn't a new one. It is an old situation that is exacerbated by declining force structure. Those bases that are currently inefficient become more inefficient as the force structure goes down.

If you look at the surface, base force structure, you find that the Army is living on the vestiges of the Indian Wars and World War II. You could trace the path of the 9th and 10th Cavalry across the United States west by looking at the Army posts. The Navy has a World War II base structure. The Air Force to some extent has a combination of World War II and the legs of the B–47.

So, we don't have a rational base structure now. If there is one thing we can really do to give the taxpayer a better return on their contribution on national defense, it is to realign our base structure in a more reasonable way.

But I have been around long enough to know the difficulty that exists in doing that.

Mr. SABO. Could you project what your assumptions are on troop levels?

Secretary CHENEY. What we are doing right now, as I mentioned earlier, the 1992–1997 POM and in doing that, we are giving guidance to the services, both fiscal guidance and strategy guidance, planning guidance. Within that broader program work, they have got to come back to us.

We have given them some notions of the kinds of troop level reductions we are talking about. With the Army, we are talking about taking down five divisions. It is not final and locked in concrete. That would change depending on the CFE agreement.

But the ball park figure, that is the kind of thing we are looking at.

Mr. DICKS. That is 135,000 people, as I understand it, is that correct?

General POWELL. It is more than that over the next several years. We are talking about our overall defense, perhaps 300,000.

Mr. DICKS. 135,000 in the Army?

General POWELL. Yes.

Mr. MURTHA. Mr. McDade.

Mr. MCDADE. No further questions.

Mr. MURTHA. Mr. Dicks.

Mr. DICKS. Let me ask you one thing on this closure question. As you know, I represent a district out in Tacoma, Washington. We have the 9th Infantry Division, ICORPS there. One of the candidates for closure is the 9th Division. We have had a brigade standdown several years ago that I went along with, although it should have probably come out of Alaska. But they got to somebody over there, so Alaska wasn't affected.

That was not under Secretary Cheney's watch, by the way.

But the bottom line is we are going to lose 6,000 people there over the next two years. Now, I have said publicly that I am prepared to support the plan, but I also am concerned about the fact that the whole plan has to be implemented.

It seems to me that the Army plan—I went through it with another General, General Riscossi, is a good plan. As you do your five-year projection, I would hope that the plan that has been laid out would be supported. We are going to see reductions both at Fort Lewis and at Fort Hood.

Obviously, part of this plan is that Fort Ord would be closed, and the 7th would go from Fort Ord to Ft. Lewis. I have looked at the cost of operation at Fort Ord, the variable housing allowance, the distance you have to take people to get them to airlift, the restrictions on training there.

It seems to me that the Army's decision to close Fort Ord is a good one, and the 7th being moved where you have McChord Air Force Base right next door, and the benefit of the Yakima Firing Range in eastern Washington, it gives you an ideal training climate.

I guess what I want to hear you say, is that you all are going to stay with the entire plan. Some of us are nervous that we are going to have our division taken away and we are going to be waiting for the 7th to come and it may never get there.

So, I want to know, are you going to support the entire plan? You are not going to walk away from the second half?

Secretary CHENEY. On the record, Congressman, the moves you are talking about are part of the 1991 budget that we have submitted to the Congress. That is to say the 2nd and the 9th come down and that the 7th be moved to Fort Lewis and that Fort Ord then be significantly reduced and not closed totally. There are a few facilities there that would stay open, but the bulk would be closed.

That is the Army's recommendation. I sat down and asked them a lot of questions when they came to me with respect to why those two divisions, that particular combination. I was satisfied that it was a sensible plan. I am inclined under those kinds of circumstances to basically go with the service. I think the Army gave it a lot of serious thought and came up with a good plan, and it is my intention to follow through.

General POWELL. I was the CINCFORSCOM before becoming the Chairman, and those units belonged to me. The plan submitted by the Army was a plan that I suggested when I was FORSCOM Commander looking to the future.

So, I hope it will execute as planned. I have also heard a lot of comments today and in the hearings we had this week that we will

be taken down even further. So, it is a good plan. I hope it is executed.

STRATEGIC MODERNIZATION

Mr. DICKS. I appreciate that. Going back to strategic modernization for a moment, I have supported the two-missile strategy, because the Chairman would say, I will kill Midgetman unless you support rail garrison, so I did, and he supported Midgetman, very simple.

Secretary CHENEY. That is what I call grand strategy.

Mr. DICKS. It was an understandable strategy. But the Chairman and I are now saying that the world has changed a bit, and maybe we need to reconsider that. That is the only reason that we are talking about this, and I must say the arms control issue, whether we put this on the table, or rail garrison, or not, does weigh in how this is going to be considered up here.

I know you are thinking about that, because I saw you testify on the other side about that. But I guess the point I would make is I have supported this program—I heard what Mr. AuCoin said. I happen to disagree, I agree with you. I think the American people have been well-served. I think we have had a bipartisan approach here. I think the strategy has been good and solid. I think it has produced a very positive result for the American people.

I am proud of the fact that I voted for every defense budget since I have been in conference and supported ICBM modernization and all of those things. I think that has gotten us to where we are today. But I do hear people saying now and I think the point you need to emphasize more strongly—is this is a transition. We get to 1992–1996 pause, and in that, of course, a new look at the situation is going to have to be forthcoming.

If you don't, your five-year plan will be in deep trouble, because people up here are going to expect that we now take into account the changing circumstances. By then, hopefully, we will have the two arms control agreements in place, and we will have a chance to see how this thing unfolds.

ECONOMIC CHANGES

But I have to tell you what my instinct is. I think the polls all indicate the American people today have made a big sea change and change in attitude. They now feel that the economic competition, the threat from the allies in fact may be more severe to the long-term security interests of the United States than the threat posed militarily by the Soviet Union.

We are in this situation where we have had a deficit on the domestic side because we have been financing the Reagan buildup in defense, which is topped off, but still doubled. People today are saying, isn't there a chance now to take some of that and go back and invest in education and housing and in fighting this war on drugs that has a very devastating, debilitating effect on our economy?

I am just telling you the mood up here and the mood with the American people is that the threat has changed so dramatically that now we can take some additional cuts in defense and focus on

this economic threat, which they now see as much more serious to the long-term viability of this country.

I happen to believe if we lose our economic strength, we are not going to be able to afford even the five-year plan that you are talking about, from 1992–1997. We have to maintain the viability of this country in terms of the economic competition that we are in.

So, I think the threat has changed. I think there is a new threat out there. I understand you guys don't like this, but I think there are a number of DARPA dual-use technologies where you could play an enormous role in fast-speed computers and the arsonite chip and in software developments that would have potential spin-offs to the commercial side, and we can use some of those technologies with commercial applications.

I think there is a changing environment up here that you recognize, because you have already taken some steps. But I think the American people will ask more of us. I think that is why Congress should make some additional reductions, because they feel that the American people are right on that basic notion, and then you have a chance to come back with your five-year plan to also recognize, I think, a changing set of circumstances.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Young.

OPERATION JUST CAUSE

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. Secretary and General, shortly after the attempted coup against Noriega and before Operation Just Cause we had an opportunity to meet with you, General, here in the Capitol and, Mr. Secretary, you also.

In that time, a lot of things were changed. You said you took a look at the contingencies and developed new plans. But we have heard ever since Operation Just Cause that Noriega himself and his Panama Defense Force knew in advance that the operation was imminent. It is alleged that there was a leak from some unknown person in the State Department to another person who informed Noriega or his forces.

Tell us what you can. Was there a leak? Did Noriega know in advance, and if so, have you chopped off someone's head yet?

General POWELL. I have wasted an enormous amount of time chasing that story which was repeated over and over in the 48 hours, by the same reporter. In the 48 hours between the time the President gave the go and we went, the only evidence I have of any break in the operation, the security of that operation, is a report from his bodyguard that a couple of hours before the actual landings began, they overheard some Americans talking.

By then, Americans were in the air and there were tens of thousands of Americans that were aware of it. I don't know if that report is true or not, but the bodyguard says Noriega heard it a couple of hours beforehand, but didn't believe it.

I was astonished that it took him that long to hear about it.

Mr. MURTHA. I knew around 5:00 or 6:00 p.m. in the evening, because the troops were taking off and reports were on the television. You had to assume that this operation was coming about.

General POWELL. There wasn't anything he could have done about it, and even if he did believe it, he didn't know what to believe except that he was going to be visited in about 26 different places.

I told the Secretary and the President and the other members of the National Security Council that I was hopeful we could get 24 hours of operational security. But beginning on Monday evening with those newscasts there were so many things moving, so many planes beginning to move, so many forces beginning to deploy, that I would be surprised if we went into Tuesday without fairly massive knowledge of the operation.

What helped us was that the press knew something was going on, but they saw it just as another emergency deployment readiness exercise out of the 82nd. Oh, you are just going to put another battalion down there as you huffed and puffed before. That carried us through Tuesday. Tuesday evening newscasts came along, and there were questions as to what kind of exercise are they doing? Nobody really knew the extent of that exercise, how large it was and that it was truly for the purpose of a major military operation in Panama until it actually started to unfold.

So, we were able to keep Mr. Noriega in the dark until just two hours before the beginning of the operation. I suggest to you, Mr. Young, that was quite an achievement on the part of the Department of Defense, an enormous achievement. But the story that first said that somebody in the State Department called a friend of Noriega and then the next thing you heard was the phone call was made within Panama.

I chased that every way I know how. I field-stripped it. I interrogated people, and I cannot find the basis for that story.

Mr. YOUNG. When you tell me something, I believe it, I want you to know that.

You have total credibility in my mind, but I am looking at a story here that says that NSA intercepted a telephone call some 24 to 48 hours before the operation.

General POWELL. There is a certain matter I can't go into in this setting, but I assure you I have examined every story similar to the one you are reading and cannot find a basis for it.

Mr. YOUNG. Thank you very much. I appreciate that response.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Miller.

Mr. MILLER. Mr. Chairman, I have some questions and I would like to present them so they can be answered for the record.

I think we have taken much of the time where these people could be back to work and I appreciate very much, Mr. Secretary and General Powell, the information that you have conveyed to us.

[CLERK'S NOTE.—Questions submitted by Mr. Miller and the answers thereto follow:]

FUTURE USE OF CHEMICAL DEMILITARIZATION PLANTS

Question. The Defense Appropriations Conference Report for FY 1990 included wording that called for a study to be made as to the feasibility of incorporating into the chemical weapon demilitarization facilities that have yet to be constructed, the capability for

these facilities to be used for alternative missions such as the destruction of toxic wastes, once the primary mission is completed. In that plans are quickly moving forward for the construction of some of these facilities this year, could you please advise me, when this study is expected to be completed?

Answer. The Army will soon award a contract to review all possible future uses of the chemical demilitarization plants. We expect to have a written report from the contractor by the end of the year and will make our report to the Congress as quickly as possible thereafter.

[CLERK'S NOTE.—End of questions submitted by Mr. Miller.]

F-117 STEALTH FIGHTER

Mr. DICKS. Just one thing on Panama. There was some criticism of the use of the Stealth fighter.

As I understand it, the reason for the use of the Stealth fighter was, one, that it was a covert wing; in other words, it was secret and a help in terms of keeping this undercover, but more importantly, that it had the best avionics for delivering a 2,000-pound weapon. In this case, you wanted a near miss—I think that has been unfairly criticized and I wanted to give you an opportunity to explain——

General POWELL. It was the latter reason. It had the best avionics, the highest degree of accuracy for the mission we were attempting to perform, which was to put a weapon in very close to the barracks at Rio Hato. We were not looking to kill a large number of Panamanians. We wanted to stun them and get a window for when the Marine battalions were landing.

The F-117 has the best precision night delivery system, but at the other end of that system is a 2,000 pound bomb. You order that up and that is what you get. It worked as we intended it to.

Mr. DICKS. The Big 5 review—when is that underway? When do you think that is going to be done?

Secretary CHENEY. They are supposed to be back to me within a couple of months, early April, in-house. That may generate more questions.

We will certainly, before the committee marks up, be back to you with the results of that analysis.

Mr. MURTHA. I hope you will confer with the committee as you are going through this analysis because the problem is trying to come up with the mix and we need a lot of cooperation.

We have some questions for the record.

Thank you very much, gentlemen.

Secretary CHENEY. Thank you, Mr. Chairman.

General POWELL. Thank you, Mr. Chairman.

Mr. MURTHA. The Committee is adjourned.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

BIG 5 REVIEW

Question. A top level review is currently underway on the B-2, Advanced Tactical Fighter, Advanced Tactical Aircraft, the C-17, and Strategic Defense Initiative. Mr. Secretary, could you give us a

brief description of the status of the review on each of these programs and some of the options that are under considerations?

Answer. The aircraft reviews are in progress at this time. We are examining what aircraft capabilities the United States needs that are not provided by currently produced aircraft, the extent to which our new aircraft programs will provide those capabilities; and fiscal and acquisition strategy consideration, including cost, schedule and performance. Regarding the SDI review, the President has directed continued R&D for decisions on strategic defense concepts. This review is therefore addressing technology progress to date and required resources to accomplish these objectives.

Question. One report in the trade press indicates that there is some suggestion that the A–12 could at least in part substitute for the B–2 mission. Is this in fact being looked at?

Answer. It would not be appropriate to respond to trade press speculation about alternatives being considered by DoD. However, the Air Force would be reluctant to support substituting the A–12 Advanced Tactical Aircraft (ATA) for the B–2 to accomplish the manned penetrating bomber mission in nuclear or conventional power projection roles.

Generically, manned penetrating strategic bomber aircraft require three main attributes to accomplish their missions: the ability to penetrate and survive, intercontinental range, and large payload. ———.

Question. When do you expect these reviews to be complete, and might you make recommendation for adjustments in the FY 1991 budget request as a result?

Answer. These specific review efforts supplement our normal program reviews and will be complete in time to use in our review of the Service's Program Objective Memoranda and in formulating the FY 1992 budget request in the fall. Since submitting the FY 1991 budget I have said that I will work with Congress on budget adjustments as your efforts to enact the FY 1991 Department of Defense Appropriation Bill proceed. Program decisions resulting from these ongoing reviews will be available to the Congress.

DUAL USE TECHNOLOGIES

Question. As the prospect of reduced military threats develops and as the concern over America's ability to compete in an increasingly intense international economic arena grows, I think it is important to begin to look at ways that the Defense Department can foster higher priority effort into research efforts that have both military and commercial applications. Is there anyone within your office, Mr. Secretary, who presently has responsibility for promising research that has potential commercial applications?

Answer. While it is the responsibility of all technical program managers to foster the transfer of technology to the commercial sector, the focal point for this activity within the Office of the Secretary of Defense is the Director, Defense Research and Engineering.

Question. DARPA does some work in areas such as supercomputers, and artificial intelligence that fall into this category, but they are constrained by having the controlling determinant of pri-

ority for limited funding identifiable military application. Should some portion of DARPA funding be set aside for state of the art technologies without identifying immediate applications? If not, should such an agency be established elsewhere in the government?

Answer. DoD's needs and national needs in areas such as information processing overlap a great deal. DARPA has established a unique working relationship with the national research communities in these areas which has successfully met national needs in the process of meeting DoD needs. Before considering alternative approaches, a more specific identification of the areas in which they are needed should be undertaken.

Question. We have begun one cooperative effort in this area with private industry with SEMATECH. What has been the experience with this program to date and is any consideration being given to establishing similar programs?

Answer. SEMATECH has three fundamental objectives:

1. To develop and transfer advanced manufacturing technology which will provide important advantages to U.S. semiconductor manufacturers;

2. To strengthen the U.S. semiconductor industry's supplier base; and

3. To strengthen the electronics technology base.

SEMATECH has successfully made significant progress with the first objective, for example, transferring plans, specifications, drawings, etc., to the member companies for the state-of-the-art fabrication facility which they built in a record 32 weeks. They are making substantial progress toward the second objective: U.S. semiconductor companies can now manufacture state-of-the-art chips (0.5 micron) with all American equipment. Such progress will result in meeting the third objective when next generation semiconductor equipment, processes, and technology are in place in U.S. semiconductor fabrication lines for the production of state-of-the-art integrated circuits for the U.S. electronics industry and the Military Services.

There are currently no plans to establish similar programs.

POST COLD WAR EUROPE

Question. During your appearance before the Senate Armed Services Committee, Senator Gore posed the question of what U.S. forces might remain in Central Europe on the assumption that all Soviet troops are withdrawn from Eastern Europe and that the German state achieves some form of unification. General Powell testified that the 195,000 troop level recently proposed by the President would be a floor for U.S. forces, although it would be a ceiling for the Soviets. Brent Scowcroft has been quoted making the same statement. Under additional questioning from Senator Nunn, Secretary Cheney, you indicated there might be some flexibility.

How was the 195,000 figure arrived at, and what assumptions did it make on Soviet forces in Eastern Europe?

Answer. It was becoming increasingly clear that the Soviets were being pressured by their Warsaw Pact Allies to remove much of their forward stationed forces. This served to allow discussions of

lower numbers of troops. Once the decision was made by the President that we should change the number, the question was put to me as the principal military advisor and I took it to my colleagues, the Joint Chiefs of Staff and USCINCEUR, General Galvin. After studying it over a period of several days, the number that provided the most appropriate balance to what was postulated to be possible by the Soviets was 195,000 troops for both sides in the central zone and roughly 225,000 overall for the United States.

Question. What assumptions were made with respect to force levels maintained by other members of the NATO alliance?

Answer. General reductions are assumed across the board, perhaps not proportionally in terms of troop strength percentages. We ought to be able to take out our troops disporportionately. At a 195,000 troop strength level, we will maintain a Corps with two divisions, an air defense capability, a logistics organization, and an intelligence infrastructure still in place should we need to reinforce again.

Question. General Powell, if Senator Gore's assumptions came to pass, what would be the mission for these forces? Would they be to guard against some reversal of Soviet Policy? Would they serve to deter ethnic conflicts in Europe and if necessary intervene in them? Would they be to provide some assurance to others, both West and East against the fears of a unified Germany?

Answer. Mr. Dicks, given Senator Gore's assumptions that Soviet Forces have withdrawn from Eastern Europe, ideally through a codified and ratified treaty process and that a unified German state exists, whose end-state is compatible to the desires of the German people, acceptable to the WWII Four-Powers, and to the member majorities of NATO and CSCE, I posit the role of U.S. forces to be:

To deter military attack against the United States, its allies, and other important countries; and to ensure the defeat of such an attack should deterrence fail;

To preserve U.S. influence around the world, to further an atmosphere conducive to democratic progress, and to protect free commerce and ensure U.S. access to world markets, associated critical resources, the oceans, and space.

Indeed our future global military posture will be designed, as it is today, to keep the peace. The presence and readiness of our armed forces, in America and overseas, prevents small crises from becoming big ones, deters major hostilities, reassures allies, and provides for dealing with unforeseeable contingencies wherever they may arise. Forward deployed American forces protect our vital interests well beyond U.S. borders and by their very presence, provide the linkage of America's democratic values and processes. These forces also provide this Nation opportunities to influence and leverage European social, political, military, industrial and economic developments. From recent discussions with allied and East European counterparts and with an appreciation of European history, I can only conclude that many Europeans view the U.S. as a stabilizing influence and want us to remain in Europe as a guarantor of peaceful change.

Question. General Powell, would their deployment be dependent on the desire of NATO and/or a new German state to have them remain?

Answer. Our forces are in Europe at the behest of our NATO allies. When and if the member nations, to include the Federal Republic of Germany, determine that the European security environment has irrevocably and genuinely changed for the better and that U.S. forces are no longer required to maintain the peace, we shall depart.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted by Mr. Hefner and the answers thereto follow:]

BASE CLOSURE

Question. Secretary Cheney, on the subject of Base Closure 2, will you be requesting legislation to "fast track" the process. If so, what specific statutory relief will you be seeking?

Answer. I certainly will. The present law severely limits my ability to close unneeded military installations. There is virtually no limit to what I can de-activate overseas, but one simple decision to close a domestic base must be studied, analyzed, and debated far beyond reason. It's a wasteful, very expensive exercise in futility. What I seek is freedom from some of the technical procedures required by the National Environmental Policy Act, which have been used in the past to stop base closings. The Department would continue to ensure that the environment is protected. The legislative proposal would also allow me to make Congressional notifications at any time—not just once a year. It would permanently establish the base closure account to help fund base closures, and would provide economic adjustment and community planning assistance for communities, as well as out placement assistance to separating employees.

Question. Secretary Cheney, I notice that only a handful of bases overseas were recommended for realignment and closure. When do you expect to make decisions on overseas base closures and realignments based on force structure changes?

Answer. Once negotiations are completed regarding the reductions of conventional forces in Europe, there will clearly be further base closings or changes in posture that affect U.S. forces overseas.

Question. For the record, what percent of your fiscal year 1991 budget is for overseas?

Answer. Approximately 10 percent of the Department's budget request for FY 1991 of $297.3 billion is for overseas operations. The overseas estimate reflects the costs of personnel, operations, maintenance, facilities, and associated support.

Question. Secretary Cheney, when the base closure list was developed what were the assumptions about force structure and our overseas commitment? Did the review look at your five year plan and what you expect to need in the future? Do you actually expect to move units back from Europe instead of inactivating them in place? Isn't that much more expensive?

Answer. A reduction in defense resources will be possible if the following three conditions are met:

A continuation of the positive developments in Eastern Europe and the Soviet Union;

Completion of satisfactory Strategic Arms Reduction Talks (START) and Conventional Armed Forces in Europe (CFE) agreements; and

No Unforeseen, extended commitments for U.S. forces.

As long as these conditions hold our force structure could be reduced while keeping the risks acceptable. In conjunction with the Services, we will evaluate force structure through upcoming program reviews for the next five years. If the reductions are possible, the base structure to support a smaller force would be correspondingly reduced. The costs of inactivating units in place and leaving their equipment behind are generally less. However, storing this equipment at these locations does not allow for its use in other contingencies. Therefore, the Army is thoroughly reviewing the appropriateness of inactivating units in place. A smaller force structure might require that this equipment be used to respond to other crises in other areas of the world.

[CLERK'S NOTE.—End of questions submitted by Mr. Hefner. Questions submitted by Mr. Young and the answers thereto follow:]

PEACE DIVIDEND

Question. Secretary Cheney, you make the point that your current plan will be $167 billion less than the original Bush budget presented in April of last year between 1990 and 1994. For those who are looking for a peace dividend, would you say that $167 billion over five years is a pretty substantial one?

Answer. This $167 billion indeed is a substantial sum, which we now can save without undue security risk because of promising developments in Eastern Europe and the Soviet Union. But I believe the real dividend of these developments is peace itself—meaning a dramatically safer world, supportive of freedom and human rights, and sustainable by lower but prudent levels of defense spending by America and other free nations.

LIBYA

Question. General Powell, in the middle of the decade, terrorism was at a peak throughout the world and it seemed like Americans were the principal target. Then in April of 1986, our Navy and Air Force carried out one of the most difficult missions in military history against Libya and almost overnight the Quadafi's of the world went underground. The Israelis, who are among the world's experts on terrorism, have told us that mission did more to deter terrorism than anything anyone else has done. But that was a difficult mission involving over 100 aircraft, carrier battlegroups, and a very long flight from England for our F-111's. Regardless of what happens in Europe, we still need to be able to do what we did in Libya. Are you confident that the cuts we are contemplating will leave us with the ability to strike targets like Quadafi if we need it?

Answer. I have no doubt we will retain the ability to strike the Quadafi's of the world when the President so directs. We must keep in mind, however, the direct connection between our forward

deployed posture and our ability to respond promptly to terrorism and other threats around the world.

If we had not been maintaining a carrier battlegroup continuously in the Mediterranean, we might not have been able to stop further killings of Americans in Lebanon last August, as we clearly did following the tragic murder of LTCOL Higgins.

Terrorists, and more importantly those who sponsor terrorism, repect the capability inherent in our overseas bases and battlegroups to quickly protect American lives around the world. For this reason, in addition to the important strategic issues, we should proceed cautiously with cuts to naval forces and overseas bases.

CHINA'S REACTION TO SOVIET CUTS

Question. General Powell, your statement points out that as part of their general force reductions, the Soviets have begun to draw down land and air forces in Mongolia and elsewhere in that region of the world. What has been the reaction of China? Do you see them declaring any peace dividend?

Answer. No, I do not see China declaring any peace dividend in response to unilateral Soviet force reductions in Mongolia and the eastern U.S.S.R. China's response was to agree to open arms control negotiations with Moscow. The second round of these talks ended February 22, and both sides are negotiating mutual force reductions and confidence-building measures, including limits on and advance notification of military exercises along their common border. There has been no reciprocal reduction in China's military force or defense budget in response to Soviet initiatives. Instead, China has asserted that its demobilization of 1 million troops in 1985 was a unilateral force reduction in itself. In reality, this demobilization improved China's military capability by streamlining its bloated force and was not a peaceful gesture directed toward any neighbor.

Despite Soviet General Secretary Gorbachev's unilateral initiatives, the Chinese still see the U.S.S.R. as a long-term adversary and are continuing to modernize and modestly expand their nuclear forces. By opening arms control talks with Moscow, Beijing is taking advantage of an opportunity to manage its Soviet threat through arms control. If the U.S.S.R. is willing to further reduce its military forces in areas near China's border—to include narrowing asymmetries in most weapon categories—China will seriously consider reducing its northern military forces as part of a Sino-Soviet arms control treaty. Doing so would enable China to devote resources more efficiently to its priority national security goals: economic development and military modernization. Demobilized military personnel could also be assigned to China's civilian reserve and militia force, which augment current Public Security Ministry efforts to maintain internal stability.

V-22 HELICOPTER

Question. Mr. Secretary, you have probably had enough V-22 questions to last you the rest of your tour of duty, but things are a little bit different today than when you and I last discussed this issue. You are recommending a budget which will result in some

91,400 fewer military personnel than the 1989 level. In the out years you are projecting −2% real growth which will mean even more cuts to military personnel. Every witness who has appeared before this committee in the last six or seven years when we were wrestling with the same cost saving alternatives you have—has testified that the V–22 would produce tremendous savings in personnel over the helicopter mix being proposed. Those savings are a result of direct maintenance manhours savings, less pilots, better attrition etc. not even taking account the extra deck spots that would be needed and the extra ships. I sure hope you are considering all of those indirect but costly issues with the additional cost of the V–22.

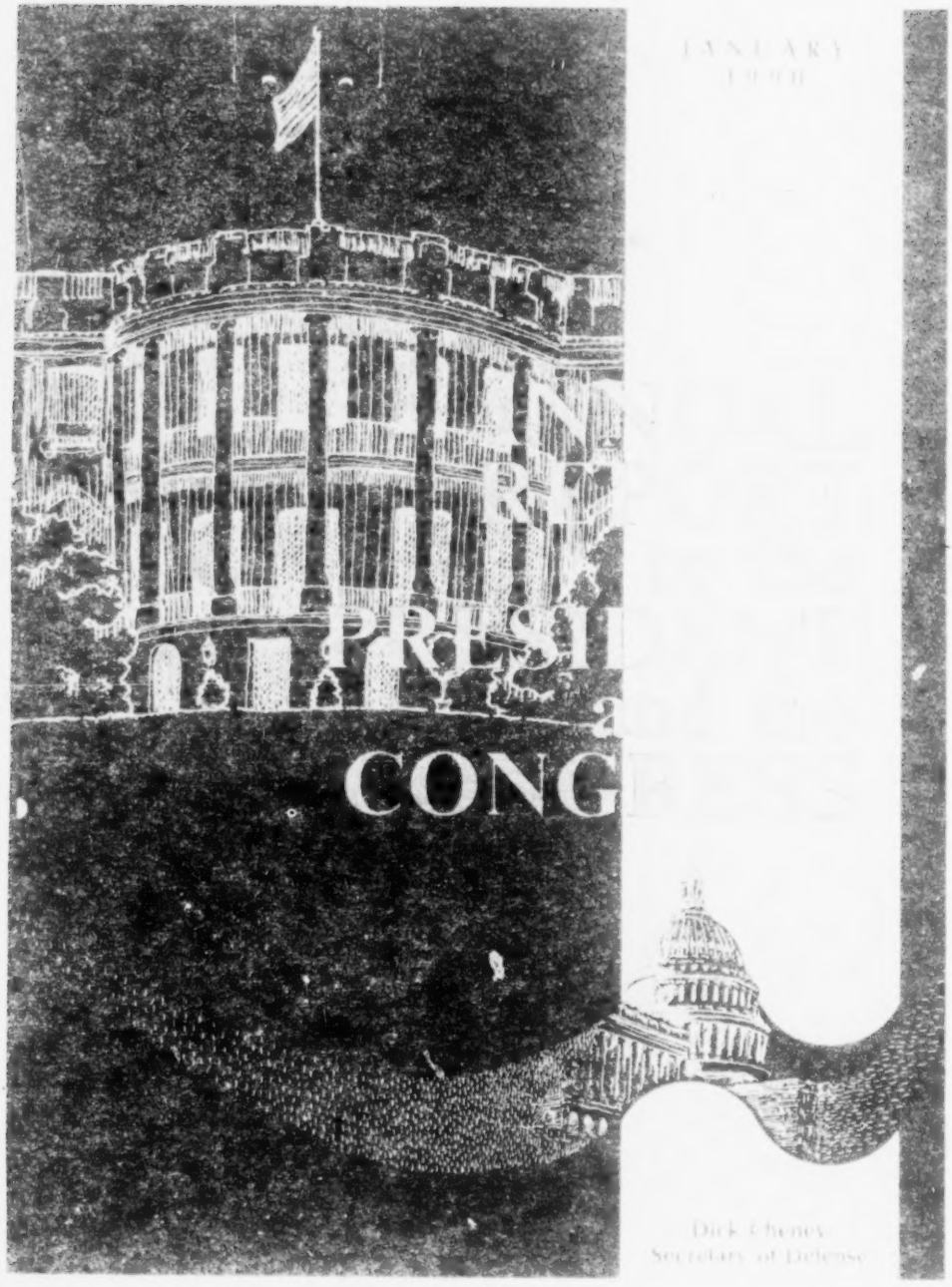
Answer. Indirect costs were considered when I made the decision to cancel the V–22. These costs included the personnel you mentioned for pilot and maintenance billets. Other indirect costs considered were for MILCON, RDT&E for alternative helicopters, and strategic lift. We also checked deck-spot requirements.

Question. I understand you testified last week before the House Armed Services Committee that you had agreed with the Congress last year to complete the R&D effort on the V–22. That would require some R&D funding in FY 1991, but I don't see any in the 1991 Budget Request. Would you comment?

Answer. With the substantial reductions we are making in the defense budget in light of the changing world situation and fiscal constraints, we face many tough choices. There are many new systems that would be useful but that we cannot afford in light of other, more pressing priorities. Consequently, we have terminated procurement of a number of lesser-priority programs, including the V–22.

Since we made the tough decision on the V–22, it is incumbent upon us to minimize the taxpayers' expenses for this system. Accordingly, we have not included any RDT&E funds in our FY 1991 budget request.

[CLERK'S NOTE.—End of questions submitted by Mr. Young. The Annual Report to Congress by the Secretary of Defense as referred to on page 2, follows:]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Dick Cheney
Secretary of Defense

The Annual Defense Report fulfills the requirements of Section 113(c) and (e) of Title 10 of the United States Code and Section 405 of the Department of Defense Reorganization Act of 1986 (Public Law 99-433).

The Department of Defense spent $47,500 in taxpayers' resources to produce this report, as compared to $169,300 last year. This cost reduction of 72 percent can be attributed to tailoring the report directly to the statutory requirements, using less expensive graphics and production techniques, and eliminating unnecessary no-charge distribution.

Report of the Secretary of Defense to the President and the Congress

January 1990

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TO THE PRESIDENT AND THE CONGRESS OF THE UNITED STATES

This annual report is being published in the midst of historic and promising transformations in the global security environment. The implications are being felt everywhere, but nowhere more than in the Soviet Union and Eastern Europe.

For four decades, the primary concern of the North Atlantic Treaty Organization (NATO) has been to deter a Soviet-led attack on Western Europe. Now, instead of an invasion of troops moving from East to West, the ideas and institutions of freedom are moving from the West to the East.

The events of 1989 have reduced the threat of a sudden Soviet attack in Europe; they clearly call for a review of U.S. defense policy priorities in the 1990s. However, as we respond to these positive developments, we have a responsibility not to get ahead of events. Much remains unsettled, the Soviet Union remains a nuclear superpower, and U.S. interests over the coming decades will face a growing number of potentially serious threats from other sources. In short, the opportunities are great, but so are the uncertainties and risks.

We can respond to the opportunities, deal with the uncertainties, and control the risks if we first remember how we got to this point in history. Since World War II, the United States has been the major leader in the world urging the peaceful evolution of freedom, democracy, and economic well-being. We have been able to play that role because a bipartisan U.S. consensus has supported an alliance strategy of forward defense, based on forward deployment, flexible response, and adequate strategic nuclear and conventional deterrents. We have begun now to plan how to attain the same basic strategic objectives with a somewhat smaller defense budget. However, any reductions must be managed with great care. Even if the Soviet threat recedes permanently — and it has certainly not yet done so — American power will still be required to meet other contingencies and obligations worldwide.

We have recently seen a graphic example. The use of the military in Panama in December 1989 was a demonstration of how effective a well-trained, professionally led, adequately equipped, and appropriately applied military force can be. It took a major investment to develop the capabilities that made Operation Just Cause a success. Such capabilities will become even more critical in the future.

In coming decades, we must be prepared for the possible emergence of new powers, for potential Third World conflicts, and for the expansion of threats from insurgencies, terrorism, and narcotics trafficking. We also face increasing threats from chemical, biological, and nuclear weapons and missile proliferation. All of these changes are possible, some are very likely, and any of them would increase the complexity of defense. We must prepare for these future risks, without losing sight of either the opportunities or threats of the present.

Therefore, 1990 should be a year in which we plan carefully for a full range of realistic contingencies. We should respond positively, where appropriate, but we should not move so rashly that we shut off options that ought to be preserved. This annual report is a statement of where we now stand and a broad overview of the needs we foresee. The fiscal year (FY) 1991 budget will outline the Department's needs in what may be the first year in the next stage of U.S. military history. Meanwhile, we are beginning to work on the new defense program for FY 1992-97, which will carry us well into that new era of opportunity.

It is important, however, not to initiate premature 1992-97 budget cuts in 1991. There is an extraordinary degree of flux in the international environment. Remarkable changes have transformed Eastern Europe, but much remains to be

done before democratic institutions can take firm hold. Furthermore, we may still see the reemergence of some of the region's historic sources of turbulence.

Moreover, although we are optimistic about the negotiations over Conventional Armed Forces in Europe (CFE) and the Strategic Arms Reduction Talks (START), we must remember that those negotiations are still under way. Even under the timetable President Bush gave General Secretary Gorbachev in December, the treaties will not be ready for ratification until the next fiscal year has begun. The FY 1991 budget therefore must avoid unilateral cuts that would undercut allied bargaining leverage or create undue pressures for other premature reductions.

During the six-year program for FY 1992-97 we will continue our defense adjustments and make real budget reductions if several key assumptions hold true: first, that the positive developments we are now seeing continue; second, that we conclude satisfactory CFE and START agreements; and, third, that nothing happens to require an unforeseen, significant commitment of U.S. force. If these assumptions hold up, we plan to cut defense costs and to restructure the military in ways that will continue, in an uncertain world, to maintain deterrence and keep risks at a low level. If the assumptions do not hold up, we will have to reassess our defense planning guidelines again. However, following through on such a reassessment would be possible if, and only if, Congress does not slash the defense budget prematurely or unwisely in 1991.

The basic structure of this annual report is intended as a preparation for the program-by-program materials to follow in other documents. The report begins with a statement about national security concerns, objectives, and policy priorities. It then moves through a discussion of defense resources to an examination of specific defense components. Rather than summarize the entire report, I shall instead take this opportunity to review a few of the broad themes that will guide the Department's planning in coming months:

(1) Declarations of new Soviet policy intentions are only beginning to be implemented through changes in Soviet force structure. The reductions we have seen so far, the promise of additional changes, and the political developments in Eastern Europe give us hope that future reductions in our conventional forces will be possible. However, any plans for such reductions must be made in full consultation with our allies, they must be based on real and hard-to-reverse changes in Soviet forces, and they must be sufficiently reversible to allow for the inherent volatility of the political situation now unfolding in Eastern Europe and the Soviet Union.

(2) We must expect that the Soviets will continue to modernize their forces and maintain aggressive research and development programs. Therefore, as we think about reductions, we must pay attention to those elements of our defense program that would be hardest to restore if Soviet intentions should change — the quality of our officers and enlisted personnel, our research and weapons development programs, our industrial base, and the fundamental structure of our alliances.

(3) Deterrence of nuclear attack remains the cornerstone of U.S. national security. Regardless of improved U.S.-Soviet relations and potential arms control agreements, the Soviet ability to initiate strategic warfare against the United States will persist, and a crisis or political change in the Soviet Union could occur faster than we could rebuild our strategic forces. In fact, the Soviet Union has been pursuing a major strategic modernization program. We therefore must continue with the modernization of U.S. strategic forces.

(4) We must vigorously pursue the Strategic Defense Initiative (SDI), both because of Soviet strategic capabilities and because of the spread of ballistic missile technology to other countries. If anything, the new environment makes SDI even more important.

(5) Because the United States has permanent interests in Europe, we must continue to work closely with NATO, even as we seek a more equitable sharing of the defense burden.

(6) We must also recognize the challenges beyond Europe that may place significant demands on our defense capabilities. The changing requirements and new roles and missions assumed by U.S. forces will require strategies that rely more heavily on mobile, highly ready, well-equipped forces and solid power-projection capabilities.

(7) Special operations capabilities also will become increasingly important, and low-intensity conflict will remain, as it has since 1945, the most likely form of violence threatening U.S. interests.

(8) In coming years, our ability to develop, exploit, and protect advanced technologies is likely to be even more crucial than it has been in the past.

(9) We remain committed to improving the Department's relations with the defense industry. Continuing the sometimes adversarial relationships of the present can only harm the technology base and our military readiness in the future.

(10) Fully implementing the recommendations of the July 1989 Defense Management Report will be essential for the Department to perform at peak efficiency. Some of the proposed reforms can be implemented internally; others will require congressional action.

(11) Finally, our highest commitment must be to continue to attract, train, and retain talented and dedicated people to serve in the armed forces.

Undergirding these specific conclusions is a more general principle: the importance of maintaining Western prudence and stability in the face of change elsewhere. For more than 40 years, the United States and its allies have pursued a consistent strategy that has served us well. Our global presence and support for freedom have encouraged the growth of democracy and the flourishing of market economies in all parts of the world, not just in Europe. From the Philippines and South Korea to Panama, Chile, Brazil, El Salvador, and elsewhere, brave people have been struggling to nurture the institutions of democracy.

The strength of the Western alliance has maintained the peace while the flaws of the Soviet system have become visible to all. As a result, the international environment seems to be moving toward a safer future. Therefore, we should — and will — look carefully at our planning priorities. For today, however, uncertainty abounds. Now is not the time to abandon the fundamental approach that has taken us this far.

Dick Cheney

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Part I
Preface

PREFACE

This annual report describes the approach the Department of Defense (DoD) is taking to meet the many challenges to U.S. security interests. Although the changes begun in the Soviet Union and Eastern Europe are welcome, Soviet armed forces remain the most serious military threat to the United States and its allies. Developments elsewhere in the world also pose continuing challenges to our security. Instability resulting from economic pressures throughout the world, violence within the Third World, weapons proliferation, insurgencies, terrorism, and drug trafficking all threaten U.S. interests.

This era of tremendous uncertainty demands a carefully designed, flexible strategy. The United States must be dynamic and imaginative in responding to opportunities, but it must also be cautious. It must maintain defenses that are capable of deterring and, if necessary, responding to an increasing range of potential threats to its security.

The Administration's defense budget priorities remain clear. To perform its national security mission and execute effectively the national strategy, including the policies of flexible response and forward defense, the Department of Defense needs:

- High-quality people;
- Ready and sustainable forces;
- Modern strategic forces; and
- Efficient acquisition of weapons and equipment.

Obtaining these essential elements is a complex and difficult task in a fiscally constrained environment.

The framers of the Constitution gave Congress the power to appropriate funds to raise armies and provide a navy, and gave the President the power to command those forces. This constitutional framework calls for close cooperation between the executive and legislative branches of government to ensure a strong national defense. The Department of Defense will respond to that call.

Part II
Defense Policy

NATIONAL SECURITY CONCERNS AND DEFENSE POLICY PRIORITIES

The United States is entering the decade of the 1990s facing both great opportunities and great uncertainties in the international security environment. U.S.-Soviet and East-West relations have improved markedly since the early 1980s. Recent changes in Eastern Europe may reduce the division of Europe and hold the long-term potential for bringing freedom and a decent quality of life to millions. Conditions are good for negotiating significant reductions in Soviet military forces and developing a durable framework for peace and cooperation. Nevertheless, the Soviet Union's military power remains formidable. Despite initial Soviet force reductions, an aggregate military capability built up during 20 years of relentless growth in Soviet defense spending continues to pose a potential threat to the interests of the United States and its allies. Soviet policy declarations reflect changes in Soviet intentions, but they are only just beginning to be implemented and are still relatively easy to reverse. In all events, the Soviets will continue to have a strong military capability.

These very significant realities offer unprecedented opportunities but also potential dangers. Our defense policy must respond to both. American strength has been a major factor in deterring aggression. We must first, therefore, continue to maintain a compelling conventional and nuclear deterrent posture, made possible in large part by a strong alliance system and global military presence. We must rely as much as possible on our two greatest strengths: well-motivated, high-quality people and technological innovation. In addition, precisely because declarative changes in policy are easy to reverse, we must pursue defense policies that encourage reform in the Soviet Union and Eastern Europe, making reversal more costly and therefore less likely. Control of conventional arms and the initiation of a dialogue on military doctrine are vital elements in our approach. Finally, we must save taxpayers' resources where a decreasing threat makes doing so possible.

While cooperative aspects of the U.S. relationship with the Soviet Union are growing in this period of change and uncertainty, the United States must be prepared to remain in long-term competition with the Soviet Union. The United States must ensure that its enduring strengths are aligned against enduring Soviet weaknesses. To accomplish this goal, the United States must identify key technologies, weapon systems, and operational concepts that are most likely to maximize the deterrent effect of increasingly constrained resources the United States devotes to the national defense. This approach, known as Competitive Strategies, maximizes the effectiveness of U.S. defenses and provides a hedge against any potential future failure of the cooperative aspects of U.S.-Soviet relations.

The nation must be prudent and cautious in adjusting the size and composition of its military forces. Abrupt, poorly planned cuts would pose great dangers to our long-term security. An inadequate defense structure cannot be rebuilt quickly should a revitalized threat require it. A decade or more is needed for research, design, and production of today's sophisticated weapon systems, and a decade may not be sufficient to recoup the essential leadership and warfighting knowledge that only experience develops. Due to the great uncertainties of the present, the nature of tomorrow's threat cannot be predicted with a high degree of confidence. The United States will be prepared to meet new challenges only if it maintains effective and flexible defense capabilities today.

Events in the following important areas reflect sweeping changes in the world that portend even greater security challenges in the coming years:

- **Events in Eastern Europe.** The unprecedented and revolutionary events in Eastern Europe are a clear victory for Western postwar policies. No one can predict the ultimate resolution of these events, however, making the prospective formulation of an effective policy difficult.
- **Events in Western Europe.** As the economies of Western Europe move toward integration by 1992, economic relations between the United States and the European Community will grow more complex. The potential impact of economic integration on defense production, cooperative agreements, and various burdensharing issues will require close examination.
- **Evolving Situation in China.** The Chinese government's violent crackdown on protests at Beijing's Tiananmen Square and elsewhere

throughout China called into doubt the chances for reform in China.

- **Increasing Economic Interdependence with the Nations of East Asia and the Pacific.** The growth in trade between the United States and the nations of East Asia and the Pacific has focused increased attention on defense priorities and U.S. interests in the region. Increasing economic competition and concern over U.S. access to military facilities will require special efforts to maintain international cooperation.
- **Turbulence in the Middle East and Southwest Asia.** Long-standing economic and political tensions in the Middle East and South Asia weaken local regimes, fuel regional arms races, and pose the threat of large-scale armed conflict. The Middle East's chronic instability could also jeopardize assured access to the region's oil, which is critical to the economic stability of the industrial world.
- **Proliferation of Weapons in the Third World.** High-technology weapons of all types are available in increasingly alarming quantities in the international marketplace. Proliferation of chemical, biological, and nuclear weapons, as well as modern long-range delivery systems, in the Third World constitutes a grave threat to U.S. interests.
- **Terrorism.** Americans are vulnerable to terrorist activities around the globe, and the number of incidents involving Americans may increase. This will enhance the likelihood of U.S. counterterrorist actions requiring DoD support.
- **Narcotics Trafficking.** The flow of illegal drugs into the United States and the continued demand for such drugs in our society have created an unprecedented and perplexing national security threat of major proportions.

U.S. national security objectives provide the essential, enduring elements upon which our defense strategy and policy are structured. One of the reasons for the success of America's postwar defense strategy has been its consistency. Based on our fundamental national security goal of preserving the United States as a free nation, our basic national security objectives include the following:

- To deter military attack against the United States, U.S. allies and other U.S. interests; and to defeat such attack should deterrence fail.
- To reduce U.S. reliance on nuclear retaliation through active research and development of strategic defense technologies, through the negotiation of equitable and verifiable arms reduction agreements, and through the maintenance of strong conventional forces.
- To encourage the establishment and strengthening of freedom and democracy around the globe.
- To encourage and assist U.S. allies and friends in defending themselves against invasion, armed insurgencies, terrorism, or coercion.
- To encourage the political and economic reforms taking place in the Soviet Union and Eastern Europe, and to foster related adjustments in their military postures.
- To protect free commerce and ensure U.S. access to world markets, natural resources, the oceans, and space.
- To prevent or slow the proliferation of nuclear, chemical, and biological weapons, and the missiles and missile technology capable of delivering these weapons.
- To halt the transfer of militarily significant technology and resources to the Soviet Union and to other countries or entities that may use them in ways inimical to U.S. interests.
- To stem the flow of illegal drugs into the United States.

Several critical defense policy priorities flow from these objectives:

Credible Deterrent Forces. The United States deters war by making it clear in advance to potential aggressors that the costs of aggression would far outweigh any possible gains they might hope to achieve. Accordingly:

- To deter Soviet nuclear attack on the United States and its allies, and to help deter conventional attack, the United States maintains a diverse mix of survivable and capable strategic and nonstrategic nuclear offensive forces that hold at risk those assets most valued by Soviet leaders and provide a range of options in response to attack.
- At the same time, the United States actively pursues research and development of effective strategic defenses, with the objective of developing options for strengthening deterrence and stability through the deployment of a strategic defense system.
- Pending an effective ban on chemical weapons, the United States maintains credible chemical defensive and retaliatory capabilities as an

effective deterrent against an attack with chemical weapons.

- The United States maintains conventional forces that are sized, equipped, and positioned to fight effectively, in combination with the forces of its allies, at the point of an attack. The United States' aim is to be clearly able to defeat such an attack quickly and decisively, preferably without resort to nuclear weapons and without extending the conflict to other theaters.

Alliance Structure. Through shared values and common interests, the United States and its European allies have forged a security partnership that has preserved peace and democracy in Western Europe for more than 40 years and enhanced global stability. The partnership has worked because it has provided a deterrent to aggression, contributed to the forward defense of our common interests, and supported the efficient allocation of manpower and materiel. Similarly, U.S. alliances with Asian and Latin American countries have protected free nations through mutual defense.

Arms Control. The United States engages in arms control as part of a coordinated effort to enhance its security — not as an end unto itself. Through arms reduction agreements, the United States seeks to reduce military threats to U.S. and allied interests, inject greater predictability into military relationships, and channel force postures in more stabilizing directions. Such agreements must place a premium on the detection of militarily significant noncompliance and preserve the latitude to conduct an effective political, economic, or military response. Negotiations currently under way include the Conventional Armed Forces in Europe (CFE) talks, the Strategic Arms Reduction Talks (START), Defense and Space Talks (DST), nuclear testing talks (NTT), chemical weapons negotiations, and negotiations on confidence and security-building measures (CSBMs).

Verification is an essential element of the arms control process. In 1988 the On-Site Inspection Agency was established as a separate DoD agency to carry out U.S. inspection activities under the terms of the U.S.-Soviet Intermediate-Range Nuclear Forces (INF) Treaty. The agency also coordinates the equivalent Soviet activities at U.S. facilities in the United States and in Western Europe.

Fight Against Illegal Drugs. The detection and countering of the production, trafficking, and use of illegal drugs are high-priority national security missions of the Defense Department. The supply of illicit drugs to the United States from abroad, the associated violence and international instability, and the use of illegal drugs within this country pose a direct threat to our security. By law, the Department of Defense serves as the lead agency within the federal government for detecting and monitoring the airborne and maritime transit of illegal drugs to the United States. By direction of the Secretary of Defense, the Department is substantially engaged in the national fight against illegal drugs.

Technology Security. Soviet-East European attempts to gain access to Western-controlled militarily critical technologies continue unabated. NATO reaffirmed at its May 1989 summit that technology security remains central to Western security as we negotiate arms reductions with the Soviet Union and Eastern European countries.

Technology security issues, however, are not limited solely to the Soviet Union and Eastern Europe. Third World nations in pursuit of nuclear, chemical, or biological weapons technology or missile technology also present a serious challenge to the United States and must remain a focus of attention.

Low-Intensity Conflict. Low-intensity conflict continues to be the most likely form of violence involving U.S. interests. In addition to violence resulting from insurgencies, regional hostilities, and terrorism, U.S. forces face potential threats from drug trafficking and the proliferation of chemical/biological weapons. We must prepare an active and timely defense against such violence, one that presents a credible deterrent and remains capable of using power when necessary. The Department must also address the underlying causes of instability by assisting in the nation-building process through economic, security, and humanitarian assistance, and civic action in support of U.S. foreign policy objectives.

Improved Intelligence Support. In uncertain, rapidly changing times, effective intelligence capabilities become even more critical to assessing significant events. Dynamic policy that effectively

responds to these events is dependent upon a comprehensive, current, and sophisticated intelligence data base. Accurate and insightful analyses of capabilities and intentions of an ever-broadening range of potential adversaries are essential to an effective force-structuring process. As a result, a high priority has been placed on strengthening U.S. intelligence collection and production capabilities.

Research and Development (R&D). Continued investment in research and development remains an important policy priority. R&D programs have contributed to deterrence over the past decade, and continued investment today is vital if we are to achieve a secure future.

These policy priorities, which represent but a sampling of matters of concern to the Department, respond to a changing world environment. While moving to capitalize on these changes, the United States must maintain its military capability to respond successfully to any threat to its national security.

COLLECTIVE SECURITY

One of the first principles of our security strategy is to maintain vigorous alliance relationships that promote forward defense of the United States and collectively maintain peace with freedom through strength.

The United States currently is party to seven formal alliances:

- The North Atlantic Treaty Organization (NATO) alliance;
- The Australia-New Zealand-United States (ANZUS) alliance (although U.S. obligations to New Zealand are suspended as a result of New Zealand's decision to ban U.S. nuclear-powered and nuclear-capable ships from its ports);
- The Treaty of Mutual Cooperation and Security between the United States and Japan;
- The Mutual Defense Treaty between the United States and the Republic of Korea;
- The Mutual Defense Treaty between the United States and the Republic of the Philippines;
- The Southeast Asia Collective Defense Treaty (which remains in effect with Australia, New Zealand, the Philippines, Thailand, France, and the United Kingdom); and
- The Inter-American Treaty of Reciprocal Assistance (the Rio Treaty).

In addition to these alliances, the United States maintains defense agreements and less formal arrangements with a number of other nations.

The alliance structure has succeeded because the United States and its allies share common political, economic, and security interests. The United States must continue to reaffirm the alliance policies that have kept it and its allies free and secure for 40 years. As we face new challenges, we must maintain our leadership role, since we are the only free power currently capable of responding to aggression in global terms. But in fulfilling that role, we will depend more than in the past on our allies to share the crucial responsibilities of our mutual defense.

As the United States seeks to maintain the vitality of its alliances, there are several major issues that must be addressed squarely. These include sharing the mutual responsibility for the common defense, international armaments cooperation, overseas basing, and security assistance.

Sharing the Mutual Defense Burden

Even as events unfold in a rapidly changing Europe, at the heart of American concerns about sharing the responsibility for the defense of free Europe is the continuing need to maintain NATO's deterrent and defense capabilities. Currently, our European allies (excluding France and Spain, whose forces are not integrated into the NATO command structure) provide the majority of the forces and equipment deployed in Western Europe. Many of our allies make an important contribution to the common defense by providing us base access free of charge.

The United States seeks to concentrate on providing capabilities for which U.S. forces have a comparative advantage and to avoid duplication of effort with and among our allies.

Accordingly, we are urging our allies to:

- Meet force goals, especially those highlighted in the Conventional Defense Initiative (CDI);
- Improve sustainability (that is, the number of days of supply of war reserve stocks, munitions, petroleum products, and other basic supplies);
- Improve the readiness and efficiency of forces allocated to NATO; and
- Support long-term defense planning based on rationalization and division of labor, reserves, and mobilization capabilities and common and joint funding opportunities.

Our Asian allies also contribute substantially to the common defense. Japan provides the United States with bases at no cost to the U.S. at the most critical geostrategic location in Northeast Asia. In recent years, it has increased its share of the mutual defense responsibility, and now provides about 40 percent of the cost of stationing U.S. forces on its territory. Recently, the Japanese government agreed to fund approximately 50 percent of the total cost of Japanese labor employed on American bases in Japan. In addition, Japan now spends some $30 billion a year on defense, which is roughly equivalent to the individual French, British, and West German defense budgets. But Japan should do even more in the area of cost

sharing and in improving the quality and sustainability of its current forces.

The U.S. alliance with the Republic of Korea and the presence of U.S. forces in that country have sustained deterrence on the Korean Peninsula for almost four decades and continue to contribute significantly to regional peace and stability. Korea's contributions to the alliance are substantial; its annual defense expenditures are slightly under 5 percent of GNP. In addition, Korea funds aircraft depot maintenance and the cost of maintaining war reserve stocks, contributes to theater communications, and supports military construction projects. During the 21st Security Consultative Meeting between the U.S. and South Korean governments in July 1989, both nations reiterated their commitment to retaining U.S. troops in Korea as long as the U.S. and Korean governments and people want them there. The Republic of Korea currently contributes approximately $300 million per year out of its cash budget to offset the cost of maintaining U.S. forces in the Republic.

International Armaments Cooperation

The United States is making substantial progress in increasing cooperative weapon development programs with its allies. By promoting standardization and interoperability of weaponry, these programs are critical to allied effectiveness. They also reduce redundant expenditures. The Department of Defense considers cooperative opportunities to be an integral part of many U.S. acquisition decisions, and NATO and Japan are moving toward integrating cooperative programs into their armaments planning systems.

Since 1985, the Congress has provided funds specifically for cooperative research, development, and testing efforts with NATO and non-NATO allies. One of these initiatives — the Cooperative R&D Program — is aimed at bringing coordination to the NATO nations' otherwise separate programs for developing and building arms, thereby improving NATO's conventional military strength. U.S. industry receives an important benefit from the requirement to spend U.S. funds allocated to these projects entirely in the United States on American-produced goods and services. The advantages to the United States and its allies, in addition to improved military effectiveness, can be considerable, including reduced R&D costs, improved access to technology, and eventual economies of mass production. The program has proved successful, and our allies have signed memorandums of understanding committing them to pay approximately 60 percent of the cost shares of the associated research and development projects. Table 1 provides details on these projects.

Overseas Basing

Executing effectively the strategy of forward defense is an important priority. Foreign bases enhance deterrence, contribute to regional stability, allow U.S. forces to reduce their response time in meeting threats, and enable the United States to implement its defense strategy in a more cost-effective manner.

Although many countries in which U.S. forces are stationed have sought increased foreign aid in exchange for basing rights, the United States does not view foreign assistance as "rent" or compensation for base access, but rather as one element of U.S. participation in mutual defense efforts with its allies. There are, of course, clear fiscal limits to what the United States can provide. If mutually satisfactory arrangements cannot be achieved with various countries hosting U.S. forces currently, the United States must be prepared to make alternative arrangements.

Security Assistance

Security assistance to friendly foreign countries is an important part of our national security policy. It helps friends and allies deter aggression or defend themselves against external threats and enhances coalition defense by providing the additional resources needed to shoulder the common defense burden. Current U.S. security assistance priorities focus on encouraging peace in the Middle East, assisting our friends and allies in self-defense, contributing to mutual defense arrangements in which host governments in turn contribute, and aiding foreign drug-interdiction efforts.

There are two major components of our military assistance program. Foreign Military Sales Financing (FMSF), which provides direct credits or grants for the purchase of U.S. military goods and services, and International Military Education and Training (IMET), which is a low-cost, grant aid program that provides military education and training in the United States to approximately 6,000 foreign military personnel each year. The IMET program is one of the most cost-effective

Cooperative Projects with Signed Agreements and Associated Burdensharing Ratios

Table 1

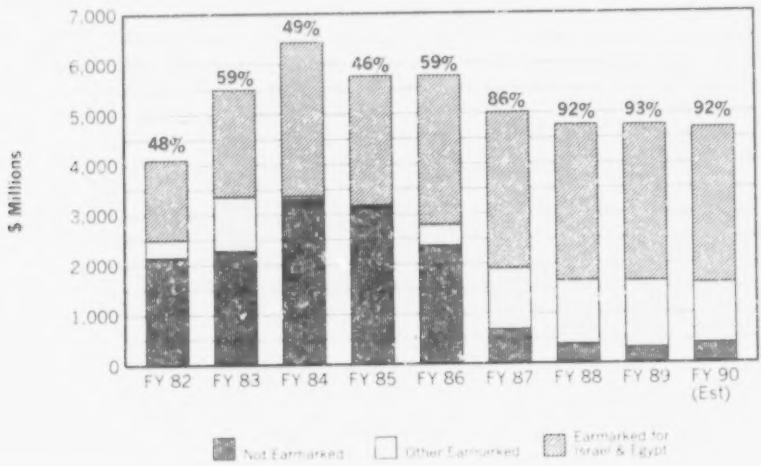
	United States Share (percentage)
Ada Project Support Environments	43.7
Multifunctional Information Distribution System	28.0
NATO Identification System	46.5
Airborne Radar Demonstration System	38.0
Advanced Short Takeoff/Vertical Landing Technology	50.0
Enhanced Fighter Maneuverability Aircraft	65.5
Surface Ship Torpedo Defense	50.0
Post 2000 Tactical Area Communications	16.7
Hawk Mobility Enhancement	50.0
Battlefield Information Collection and Exploitation System	50.0
LINK-11 Improvements	12.5
RPV Multimission Optronic Stabilized Payload	50.0
Total Cost Shares for MOUs Signed to Date — U.S.	40.0
Allied	60.0

foreign policy tools of the U.S. government. Investing in the military education and training of military personnel from friendly countries greatly enhances the capability of those countries to defend themselves, at a low cost to the American taxpayer.

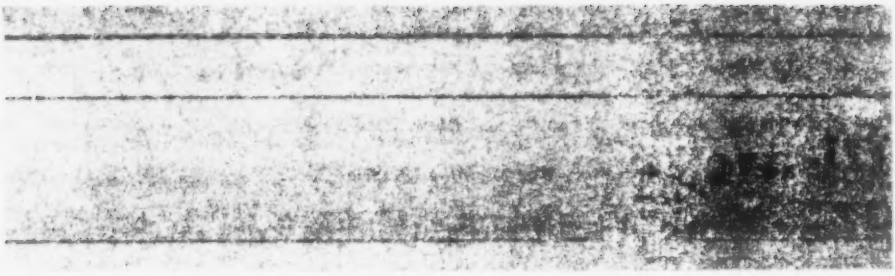
Unfortunately, resource constraints and congressional earmarking of funds have made it difficult to fashion a security assistance program of sufficient size and with proper focus to protect and advance our security interests. Funding for FMSF has decreased by over 26 percent since FY 1984, while the percentage of funds earmarked by the Congress for a few favored programs has increased from 49 percent to 92 percent. Consequently, FMS funding available to non-earmarked countries has declined by over 90 percent since FY 1984, thus severely limiting our flexibility to address the security needs of numerous friendly governments. Chart 1 illustrates these trends.

Military Assistance Funding and Congressional Earmarks
FY 1982 - FY 1990

Chart 1



Note: Percentages indicate total of Military Assistance Funding earmarked.



BUDGET

Preparing and executing a defense budget that supports our national security strategy while providing necessary investments for the future remains complicated by the need for fiscal restraint. The United States must continue to provide an effective deterrent, engage its armed forces effectively in peacetime in the Third World, pursue technological advances that improve defense capabilities, and maintain the quality and readiness of its forces. The executive and legislative branches of government, utilizing creative and cooperative approaches, can meet the challenge of directing scarce resources effectively to address defense requirements.

Four priorities guided development of the Administration's FY 1991 budget request. These priorities are essential to a comprehensive and cohesive defense program that meets U.S. security requirements.

- **People.** The recruitment and retention of high-quality military and civilian personnel, their well-being, and their readiness continue to be among our highest priorities. The well-being of our uniformed personnel has a direct effect on the quality of our forces and their readiness. The FY 1991 budget provides an important pay raise. The budget also provides for reasonable living and working conditions for our service members through morale, welfare, recreation, and family support programs, and through education assistance.
- **Readiness and Sustainability.** The maintenance of high levels of readiness, supported by adequate training and operating tempos, is critical to the successful execution of our national defense strategy. Our forces must also be provisioned to sustain their warfighting capability for the duration of a conflict. The critical components of readiness are high-quality personnel, realistic training, modern weapons and equipment, and logistical support. The budget maintains operating tempos at levels sufficient to provide challenging training for operational units of all four services. Operating tempo, as well as opportunities for units to develop combat skills at high-technology training facilities, must be maintained at levels necessary to sustain readiness. Our sustainability programs ensure that U.S. forces will have the staying power to fight effectively in a prolonged conflict.
- **Efficient Acquisition.** The power, mobility, and qualitative edge of our nuclear, conventional, and unconventional forces depend on efficient acquisition of weapon systems under streamlined management. The budget continues to give emphasis to selected multiyear procurement and production programs at economical rates. It terminates low-priority efforts that are no longer needed or affordable.
- **Strategic Nuclear Modernization.** The capability, survivability, and endurance of our strategic nuclear forces and their associated command and control structure must be assured. The FY 1991 request provides for continued modernization of our strategic nuclear forces within fiscal constraints. It continues investment in modernized mobile intercontinental ballistic missiles, the Trident D-5 missile, the B-2 Stealth bomber, and the Milstar satellite communications system. Additionally, the Administration is committed to active research and development of strategic defenses as an integral part of modernization.

These four priorities are reflected throughout the FY 1991 budget proposal. They provide the vital guidelines for making tough decisions about defense programs.

Components of the FY 1991 Defense Budget

The Administration's defense budget for FY 1991 proposes budget authority of $295.1 billion (see Table 2). Appendix A summarizes the budget request by appropriation title and component.

The distribution of FY 1991 budget authority by major appropriation title is shown in Chart 2. Military personnel (including payments to service members; the accrued retirement cost of the current military force, and the cost of supporting programs) and operations and maintenance (including allocations for civilian personnel, maintenance and repair of equipment, utilities, medical services, training, fuel, and spare parts) constitute about 57 percent of DoD budget authority. The remainder of the budget provides funds for research and development, procurement of weapon systems and equipment, military construction, and family housing.

Department of Defense Budget (Dollars in Billions)

Table 2

	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars				
Total Obligational Authority[a]	288.6	292.2	292.3	297.3
Budget Authority[b]	283.8	290.8	291.4	295.1
Outlays[c]	281.9	294.9	286.8	292.1
FY 1991 Dollars				
Total Obligational Authority[a]	321.0	312.8	303.9	297.3
Budget Authority[b]	315.5	311.3	302.9	295.1
Outlays[c]	314.4	316.2	298.7	292.1

[a] **Total Obligational Authority (TOA)** represents the value of direct defense programs for each fiscal year, regardless of financing.

[b] **Budget Authority (BA)** permits the obligation of funds for immediate and future disbursement and is associated with the year the authority takes effect. Generally, the difference between TOA and BA stems from the application of receipts that offset total budget authority.

[c] **Outlays** represents actual expenditures. About 63 percent of FY 1991 outlays will result from FY 1991 budget authority; the remainder will come from budget authority provided in earlier years.

Outlays in FY 1991 (also see Chart 2) will go primarily for pay (46.2 percent), prior-year requirements (38.5 percent), and current-year operations (4.9 percent). Current-year operations cover base structure and support costs. Outlays from prior-year programs represent amounts already on contract and are largely a function of procurement and research and development investments made in earlier years. Nearly 10.4 percent of FY 1991 outlays will be spent on new investment programs.

The budget request reflects a declining share of the U.S. gross national product, as shown in Chart 3. Planned defense outlays also represent a declining share of total federal outlays (see Chart 4). Proposed funding for the FY 1991-95 period is shown in Table 3.

Budget Predictability and Stability

Stable defense funding is essential to efficient program planning and execution over the long term. Hard-won gains in defense capability can be sustained, and an adequate defense posture assured, when funding is predictable and stable. Drastic swings in funding make effective program management impossible, and they unnecessarily increase the cost to the taxpayer of national defense.

One major benefit that accrues from predictability and stability is clear: planned production rates that provide for lower unit costs. Multiyear procurement (MYP) enables weapons to be purchased more economically and contributes to better planning. These benefits can be expanded and the

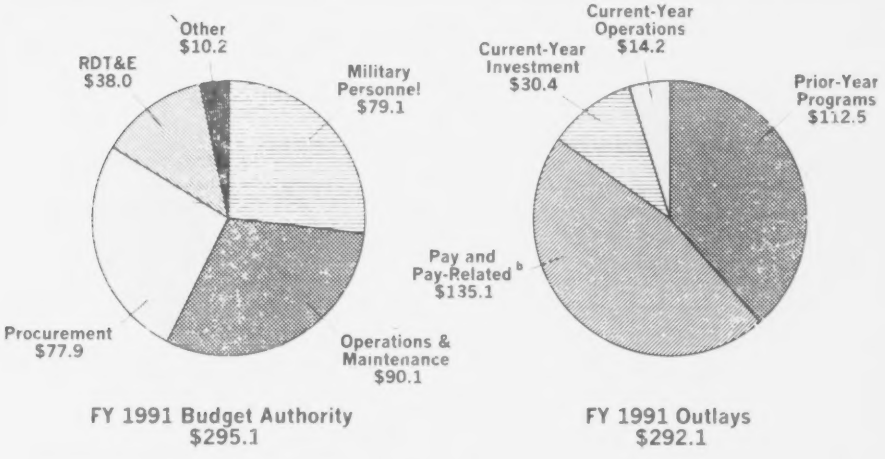
FY 1991 Department of Defense Budget Long-Range Forecasts (Current Dollars in Billions)

Table 3

	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995
Budget Authority	295.1	300.0	304.4	308.0	311.8
Percent Real Growth	-2.6	-2.0	-2.0	-2.0	-2.0
Outlays	292.1	296.9	299.0	302.4	304.8

Department of Defense Budget Authority and Outlays [a]
(Dollars in Billions)

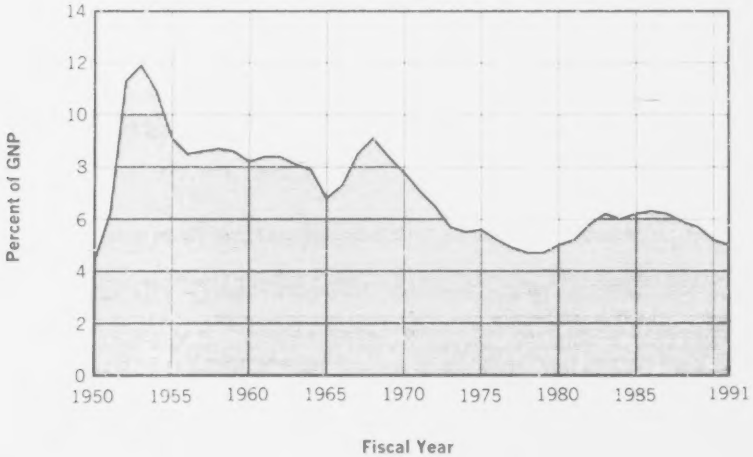
Chart 2



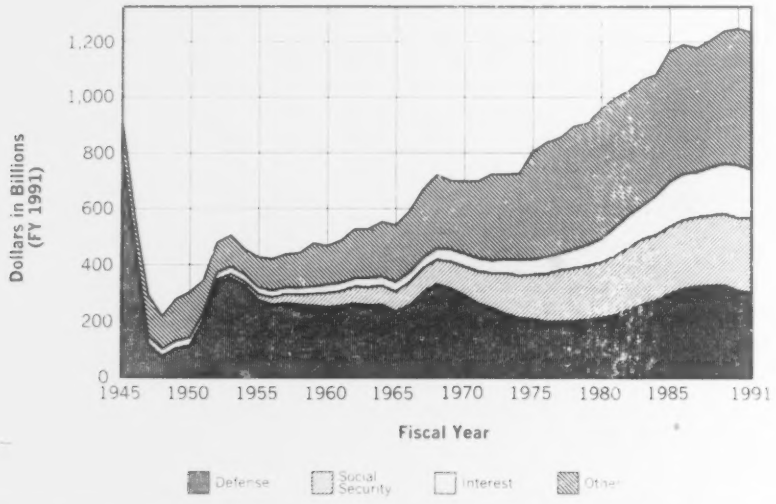
[a] Numbers may not add to totals due to rounding.
[b] Includes retirement pay accrual cost.

Defense Outlays as a Share of the Gross National Product

Chart 3



Total Federal Outlays Chart 4



savings multiplied only with defense budgets that are consistent and coherent over the long term. Bipartisan budget agreements between the leaders of the executive and legislative branches have proved important in establishing predictable and stable defense "topline" levels. Full implementation of two-year budgeting for both authorizations and appropriations would go even further toward providing the resource stability necessary for economic program execution.

Congressional Budget Reform

The size and complexity of the congressional structure has resulted in an increasingly time-consuming budget process, which has complicated the Congress's efforts to provide adequate defense resources within constrained funding levels. Defense legislation has become laden with restrictions that hinder the achievement of national security objectives. Increasing congressional micromanagement has hindered the Department's efforts to allocate resources and execute programs in ways that improve efficiency and effectiveness. Congressional demands for extensive written reports on myriad management decisions have imposed an ever-increasing workload on DoD, in many cases without significant benefit to congressional processes.

Simplifying and streamlining the congressional review process could provide the timely and responsive action on budget requests that is essential to stable and predictable defense funding. Full implementation of a biennial budget cycle, supported by long-term funding-level agreements, would make for a more orderly congressional process and a stronger national defense. Enhanced rescission authority would enable the executive branch to eliminate wasteful spending. Effective

congressional budget reform, combined with DoD management and acquisition reform, could produce a steady, affordable long-term defense program that meets the nation's security requirements.

STRENGTHENING DEFENSE MANAGEMENT

The Department must be prepared to respond to challenging international events in the years ahead. Potential threats to the security of the United States and its allies are likely to increase in some areas and diminish in others. They may well take new and more subtle forms, necessitating U.S. military forces that are modern, ready, and sustainable in a variety of contingencies.

At the same time, as a result of competing national priorities, there can be no doubt that the real resources available for defense in the early 1990s will decline significantly. If the United States is to continue to protect its global interests, meet its responsibilities, and minimize risks to its security, the Department of Defense must preserve essential military capabilities through the ever more efficient use of the resources at its disposal. Such circumstances compel the utmost attention to prudent management of the defense program — and oblige the executive branch, Congress, and industry, more than ever, to join in husbanding available defense dollars, cutting costs, and achieving new levels of productivity and quality. The Department must:

- Ensure the continued strength and readiness of the armed forces;
- Acquire needed weapon systems in less time, at lower cost, and with promised performance;
- Encourage industry and government to meet the highest standards of integrity and performance; and
- Strengthen public confidence in the Department's stewardship of defense resources.

This is a task of immense proportions, requiring improvements in defense management on the scale contemplated by the Packard Commission, the Goldwater-Nichols Defense Reorganization Act of 1986, and the July 1989 Defense Management Report to the President. Answers will not be found in "quick fixes" or simple statements of managerial philosophy. Instead, a concerted long-term effort is required.

The July 1989 Report to the President on Defense Management established a broad agenda to accomplish full implementation of the recommendations of the Packard Commission and to realize substantial improvements in defense management overall. Many of the initiatives proposed in the Report are being undertaken on the authority of the Secretary of Defense. Some will require concerted action within the Administration, with other executive departments and agencies. Still others — among them actions that hold the greatest promise for long-term improvement — will require the active support of the Congress and the defense industry.

The Defense Management Report sets forth a plan to implement the Packard Commission's recommendations, to improve substantially the defense acquisition system, and to manage the Department and defense resources more effectively. The report identifies requirements to:

- Forge better links among national policy, military strategy, force structure, resources, and programs;
- Enhance programmatic and technical input during resource allocation discussions;
- Reduce significantly the number of programs that overrun their budgets, are late, or are technically deficient;
- Reduce overhead costs while maintaining military strength;
- Establish and enforce high ethical standards of conduct in DoD and the defense industry;
- Reduce micromanagement and simplify the laws and regulations governing DoD;
- Reverse the decline in the industrial base; and
- Improve relations among Congress, DoD, and the defense industry.

Forging better links among national policy, military strategy, force structure, resources, and programs: To facilitate communication regarding fundamental issues of defense policy and management, the Department has established an Executive Committee of the Department of Defense. The committee is chaired by the Secretary and includes the Deputy Secretary, the secretaries of the military departments, the Chairman of the Joint Chiefs of Staff, and the Under Secretaries of Defense for Acquisition and Policy. In addition, a reorganized Defense Planning and Resources Board (DPRB) has permitted more effort to be concentrated on effective planning, thereby improving the linkage among national security policy, military strategy, and resource allocations for specific programs and forces. The Department's new Defense Planning

Guidance will provide for the resolution of several significant planning topics, define the essence of a national defense strategy, summarize high-priority defense concerns, and establish guidelines for developing an integrated long-range plan for DoD.

Enhancing programmatic and technical input during resource allocation discussions: Improved program and technical input in allocating resources will be accomplished by ensuring that:

- The role of the Under Secretary of Defense for Acquisition (USD(A)) is enhanced through his active participation in all phases of the Planning, Programming, and Budgeting System (PPBS) and deliberations on major budget issues.
- The Under Secretary of Defense for Policy (USD(P)) serves as the Secretary's and the Deputy Secretary's primary advisor for the planning phase of PPBS and is a key participant in programming and budgeting decisions.

Reducing significantly the number of programs that overrun their budgets, are late, or are technically deficient: Several initiatives are directed at ensuring that programs meet schedule, cost, and performance requirements. First, the USD(A) will manage a more disciplined review process for major acquisition programs. The reviews, conducted by the Defense Acquisition Board (DAB), will make certain that every program is ready for more advanced stages of development before receiving approval to move to the next milestone phase. The reviews also will ensure that plans for advanced development stages are consistent with sound acquisition management.

Second, the Joint Requirements Oversight Council (JROC) will assume a broader role in support of DAB decisionmaking. A revised JROC charter provides for:

- Review of all warfighting deficiencies that could necessitate development of major systems prior to their consideration by the DAB;
- Review of the validity of identified mission needs and assignment of joint priorities for meeting those needs;
- Validation of performance goals and baselines prior to DAB review of major programs; and
- Selection of programs for recommendation to the USD(A) as candidates for joint development and production.

Third, the authority of program managers (PMs) will be strengthened by:

- Establishing unambiguous and abbreviated chains of command to the most senior decisionmakers;
- Establishing clear lines of responsibility and authority downward from the service acquisition executives (SAEs) through the program executive officers (PEOs) to the PMs; and
- Providing for PMs to report exclusively to their PEOs, thus streamlining the chain of command in acquisition matters and reducing reporting requirements.

Fourth, program stability will be enhanced by:

- Taking greater advantage of multiyear contracting; and
- Ensuring that successful PMs and PEOs enjoy sustained tenure, ideally to direct their programs through an entire milestone phase.

Fifth, the quality of the defense acquisition work force will be enhanced by the establishment of a dedicated corps of officers within each service who will make full-time careers as acquisition specialists. These plans will ensure:

- Selection of highly promising officers early in their careers;
- Timely specialization in acquisition, including the election of such career paths by officers with some significant operational experience;
- Assignment, other than in exceptional cases, to acquisition positions and related training once selected;
- Creation of attractive and equitable career paths, including designation of corps-eligible positions; and
- Assurance of promotion potential up to the highest flag grades.

The Department also will work with the Office of Personnel Management (OPM) to make DoD civilian career opportunities more competitive with those in the private sector. This will include supporting the Administration's proposed legislation allowing DoD and other agencies to pay for degree-related course work by civilian

employees in critical hard-to-fill areas. In addition, the Department is seeking prompt action by OPM on classification of DoD contracting officers as a professional personnel series. In the case of officers with the authority to award contracts of more than $25,000, DoD will seek the adoption of classification standards that require an appropriate combination of relevant work experience and education.

Sixth, to increase the prototyping and testing of major procurement items, the USD(A) will develop and apply policies that support sound decisions on major programs through full-scale engineering development. These policies will dictate schedules and management plans for major programs that:

- Support the building and testing of system and critical subsystem prototypes, the use of systems engineering, and the validation of manufacturing processes as early as possible; and
- Provide for early testing and evaluation of prototype hardware to demonstrate their design concepts, performance, and suitability in realistic operating environments.

Reducing overhead costs while maintaining military strength: The Department is instituting programs that focus on continuously improving the quality and effectiveness of defense processes, products, and services. This effort includes eliminating management layers and research, development, and procurement-related functions that do not add clear value. It also provides incentives to managers and employees to use their creativity to improve performance and consistency, and it ends reliance on review and inspection as a primary means of ensuring quality. The goal is an overall improvement in the efficiency of DoD's acquisition management, logistics, distribution, and related maintenance activities.

Greater efficiency and cost reductions also will be accomplished through other measures. There will be strong management oversight of the base closure and realignment process. Also, DoD contract administration services (CAS) will be consolidated to:

- Streamline CAS organizations;
- Promote uniform interpretation of regulations;
- Improve the implementation of DoD procurement policy; and
- Upgrade the quality of the CAS work force while reducing payroll costs.

In addition, the Department is developing a corporate information management program to improve the standardization, quality, and consistency of data from DoD's multiple management information systems. The goal is to reduce unnecessary redundancy and to realize savings in both the $9 billion spent annually on information technology and in the DoD business areas these systems support.

Establishing and enforcing high ethical standards of conduct in DoD and the defense industry: The Department of Defense will not tolerate illegal or unethical behavior. DoD encourages contractor self-governance and the establishment of appropriate corporate codes of conduct.

DoD has established an Ethics Council consisting of the USD(A) and the secretaries of the military departments, advised by the DoD Inspector General and General Counsel. The council is charged with developing ethics programs for the acquisition work force and improving existing compliance programs. It also will develop broader programs to enhance awareness and understanding of ethical issues — how they arise day to day, how existing standards may or may not apply, and what responsibilities DoD managers have as ethical leaders.

Reducing micromanagement and simplifying the laws and regulations governing DoD: A task force headed by the Under Secretary of Defense for Acquisition is conducting a zero-based review of regulatory and other guidance pertaining to acquisition, procurement, logistics, and related activities, beginning with DoD-level directives and proceeding down through the military departments and their components. The task force is governed by the strong presumption that regulations should not be retained or duplicated unless there is a clear and convincing need to do so. Special scrutiny is being given to measures that limit judgment, creativity, or initiative or that inhibit the implementation of sound procurement policies.

Another task force is reviewing existing programs and initiatives for advocacy of special, single-purpose requirements. The task force will

be charged with developing a plan to eliminate as many such programs as possible.

An important simplification initiative is "acquisition management by exception" — that is, intervention by senior management only at major acquisition milestones, at a program manager's request, or in the event a program encounters substantial problems in meeting its baseline. In the 1987 Defense Authorization Act, the Congress gave DoD authority to designate a limited number of acquisition initiatives as "Defense Enterprise Programs" in order to test the viability of this approach. The Department plans to utilize it.

Reversing the decline in the industrial base: DoD is committed to policies and programs that will enhance America's competitive strength and bolster our industrial base. For example, the Department intends, when appropriate, to establish contractual relations that give its suppliers financial incentives to explore technologies that could improve weapons performance and reduce life-cycle costs. In addition to promoting the use of multiyear contracts, the USD(A) will limit strictly the use of cost-sharing contracts for systems development and the use of fixed-price contracts for high-risk development efforts.

The USD(A) will also help promote the long-term, efficient producibility of systems. With the Vice Chairman of the Joint Chiefs of Staff, he will seek to expand the use of broad performance specifications in weapons design. He will also seek to ensure that specifications are locked in prior to high-rate production and that upgrades or modifications are made on a block, not a piecemeal, basis.

Improving relations among Congress, DoD, and the defense industry: The Department will continue its voluntary disclosure program, under which DoD contractors are encouraged to demonstrate their commitment to business integrity and honesty by disclosing evidence of potential civil or criminal fraud in their contracts with DoD. To reduce the possibility of inconsistent treatment of such disclosures, the Department will work with appropriate agencies to develop standard criteria for program participation. In addition, to create clear incentives for corporate management, voluntary disclosure of potential violations will remain an important consideration, consistent with applicable law, in the determination of the sanctions DoD might apply.

DoD also will continue to encourage industry participation in its Contractor Risk Assessment Guide (CRAG) program. This program promises more efficient use of DoD audit capabilities by placing greater reliance on contractors to establish effective systems of internal controls. In conjunction with the CRAG program, the Defense Contract Audit Agency (DCAA) has encouraged broader DoD-industry communications on annual government audit plans in order to highlight opportunities for improved contractor internal controls.

Over the long term, DoD will seek to develop a procurement system that rewards contractors for demonstrating their commitment to effective self-governance. A supplier's proven reputation for integrity is one important standard that can be applied in making contract decisions. As in the commercial marketplace, the totality of a firm's performance should be considered in order to ensure that the government receives the best value from the suppliers with whom it does business.

The Department will continue to work with the Congress to fashion a more effective and efficient budget and acquisition process. There are many recommendations for improvement that the Department will be able to institute on its own authority, but several key initiatives aimed at streamlining these processes will require the close cooperation of the Congress and legislative reforms. If DoD is to implement quality and cost-reduction programs successfully, the Congress must provide key legislative initiatives in the form of new laws and repeal or modify others so as to streamline congressional oversight and improve the budgetary process.

PERSONNEL

Our foremost budget priority is to preserve the high quality of the personnel who constitute this nation's most critical defense resource. If we are to recruit and retain highly educated, motivated, and dedicated men and women, service in defense of the nation's security must be regarded as the honorable and attractive profession that it is. Such service must reflect the highest ideals of the nation, it must adequately compensate those serving for the sacrifices demanded of them, and it must provide a desirable standard of living for them.

Recruiting, training, and operational experience data indicate that the quality of our personnel has never been higher. The maintenance of this standard of excellence demands a commitment to recruiting, retention, and quality-of-life programs for all our personnel. Demographic, economic, and technological trends challenge our ability to meet that commitment. The Department's success will, therefore, require insightful management policies and sufficient levels of funding.

Total Force Management

The work force required to support the nation's defense is determined by a complex system that translates national security requirements into the various types and numbers of personnel that constitute the total force. The force structure reflects the U.S. forward-defense strategy, under which units are forward deployed and supplemented by forces based in the continental United States (CONUS). Total force planning must consider the categories of personnel (active and reserve component, DoD-civilian, private contractor, and host-nation support) that might be used in various contingencies. The process begins with an evaluation of the number and type of threats confronting the United States, and the strategies, capabilities, and risks associated with countering them. It considers the United States' ability to react to contingencies under both mobilized and nonmobilized conditions, as well as allied capabilities. Fiscal constraints also influence the types and quantities of units, equipment, and personnel that can be maintained in the force structure. Total force composition is reflected in Chart 5.

Significant portions of the Department's military and civilian work forces remain regulated by congressionally imposed ceilings. This prevents maximum efficiency and effectiveness in total force management. For example, current congressional restrictions hamper the Department's ability to pursue hiring policies that would enable it to take advantage of greatly needed capabilities of spouses of service members assigned outside the continental United States. Also, limits on the size of defense agencies and headquarters impede optimum distribution of resources within and among these organizations.

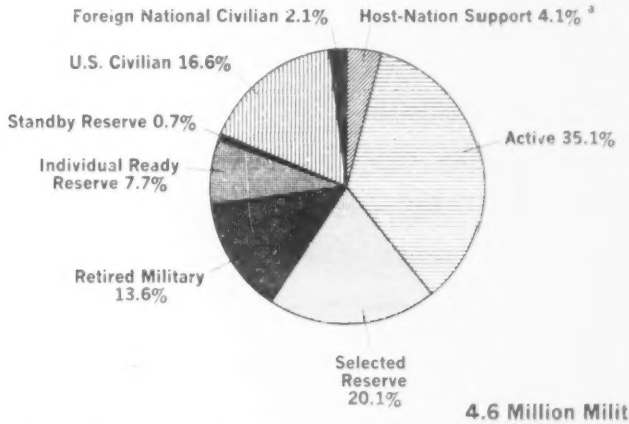
The Department of Defense needs the flexibility to make adjustments in the personnel management systems governed by existing legislation. Some amendments will be necessary if the Department is to continue to manage military personnel effectively.

Recruiting

As the sophistication and complexity of military equipment has increased, so has the need for highly competent and motivated personnel to acquire, operate, and maintain it. During the 1980s, the Department succeeded in attracting highly educated military recruits for both the active and reserve components. Between FY 1980 and FY 1985, the proportion of recruits who were high school graduates jumped from 68 to 93 percent, and the share has remained above the 90 percent level since FY 1984. In comparison, only 75 percent of the youths in the civilian population have graduated from high school. Enlistment test scores among recruits also have risen since 1980. This improvement in recruit quality has continued despite a 15 percent reduction in the 18- to 24-year-old population since 1979. Our success, in large part, is attributable to sound incentive programs, including the funding of future education. These recruitment numbers are reflected in Table 4.

Difficult challenges are on the horizon, however. The declining youth population, a strong economy in which the military must compete with the private sector for potential recruits, the complexity of new weapon systems, and competition for federal dollars are some of the realities facing manpower planners. The Department has worked hard to reduce the impact of these concerns. For example, weapon and support systems are being designed to minimize both the number and skill level of people needed to operate and support them. Training

Composition of the Total Force Chart 5



[a] Host nation support includes military and civilian.

programs and devices (including computer-based simulators) also are being developed systematically during the acquisition process. The average period of active service has been increased through longer initial enlistment contracts and retention of skilled specialists both to gain a greater return on training investments and to reduce future recruiting needs. Research is under way to quantify changing trends in ethnic, gender, and skill levels; to determine how to link job performance requirements with changing recruit characteristics; and to identify ways in which recruiting and training programs might be modified to reflect these changes. These programs are designed to enable the Department to do more with reduced manpower resources. While the size of military forces will be reduced, the importance of recruiting and retaining high-quality personnel for positions that remain will be even more critical, as each individual comprises a greater share of unit capability. Consequently, adequate recruiting and retention resources will remain an important budget priority.

The growing scarcity of technical personnel is a specific recruiting concern. Numerous studies have projected a decline in the number of people seeking college degrees in fields in high demand in the Department — especially science and engineering. This is of special concern since, as pointed out by the Packard Commission and the July 1989 Defense Management Report, technical skills will be increasingly important in the drive to improve the quality and reduce the cost of U.S. weapon systems.

Technicians constitute a major portion of the Department's acquisition work force. They work in jobs related to research and development, procurement, logistics, distribution, and equipment maintenance. Their collective efforts are crucial to the U.S. defense program, and much depends upon how efficiently and effectively they perform their duties. As the Packard Commission pointed out: "... [C]ompared to its industry counterparts, this work force is undertrained, underpaid, and

Quality and Numbers of Enlisted Active-Duty Accessions[a] (Numbers In Thousands)

Table 4

	Quality Indices			Accessions	
	Percent High School Graduates	Percent Average or Above Aptitude	FY 1989	FY 1990[b] Planned	FY 1991[b] Planned
Army	90	93	119.9	97.4	95.5
Navy	91	91	94.3	88.4	85.9
Marine Corps	95	99+	34.2	34.7	36.0
Air Force	99	99+	43.8	36.4	36.4
Total DoD	**92**	**94**	**292.2**	**256.9**	**253.8**

[a] Includes prior service and nonprior service accesssions.
[b] Estimates as of January 1990.

inexperienced. Whatever other changes may be made, it is vitally important to enhance the quality of the defense acquisition work force — both by attracting qualified new personnel and by improving the training and motivation of current personnel." A major focus of the Defense Management Report process has been identifying and implementing steps to accomplish the commission's broad objectives.

On the civilian side, the Department suffers from the outdated and ineffective civil service system mandated by statute. The four aspects of the current system that most seriously hurt DoD competitiveness are:

- Excessively regulated and time-consuming hiring procedures;
- Rigid and often inadequate compensation standards;
- A cumbersome job classification system; and
- A performance appraisal system that does not adequately tie pay to performance.

Eight years ago, the Navy instituted the China Lake Personnel Demonstration Project to address these areas of concern. The project proved the viability of a less rigid personnel management system and demonstrated the clear advantages such a system could offer to DoD employees and managers alike, including notable improvements in working environments, professional rewards, recruitment, and retention. Its success has been due to several distinct features:

- A market-sensitive hiring system that allows the government to compete more effectively for high-quality personnel in hard-to-fill jobs;
- A performance-oriented compensation system that links pay to performance to an extent not possible under the existing civil service system;
- A personnel system that greatly reduces the administrative effort and costs associated with federal personnel management; and
- An administrative system that gives line managers greater responsibility for personnel functions.

DoD also seeks to strengthen further the professionalism of its civilian procurement work force. Specifically, it is striving to make its employees' capabilities and career opportunities more competitive with those of their private-sector counterparts.

On the military side, the secretaries of the military departments, working with the service chiefs, have developed plans to establish a dedicated corps of officers in each service who will pursue full-time careers as acquisition specialists. The plans include specialized educational requirements and the

Selected Reserve Enlistments (Numbers In Thousands)

Table 5

	FY 1989 Objectives	FY 1989 Achieved	FY 1990 Objectives	FY 1991 Objectives
Army National Guard	77.8	71.1	77.1	77.2
Army Reserve	78.1	75.4	76.4	75.0
Naval Reserve	36.8	30.2	33.6	33.6
Marine Corps Reserve	12.6	12.0	13.2	13.2
Air National Guard	11.2	11.6	12.4	11.1
Air Force Reserve	14.7	11.6	14.0	13.5
Total	**231.2**	**211.9**	**226.7**	**223.6**

provision of training opportunities for acquisition corps officers throughout their careers.

Reserve Forces

The 1.6 million men and women who serve in the reserve forces of the United States are more important to our national security interests today than reserves have been at any time in the nation's peacetime history. As we enter the decade of the 1990s, budgetary constraints and rapidly changing political developments around the world make it imperative that we continue the successful integration of reserve and active forces to carry out U.S. security objectives.

By any reasonable standard, the general capabilities of National Guard and reserve units have improved substantially in the last decade. There have been several contributing factors. First, the quality of the personnel who serve in the reserve forces is at an all-time high. Last year, 92 percent of the enlisted accessions into the National Guard and reserves were high school graduates, and 95 percent scored "average" or better on the Armed Forces Qualification Test. Second, the training of each National Guard and reserve unit has been tied to the wartime mission of the unit, and the units have been held to the same performance standards and readiness criteria as active force units. Developments in training technology, meaningful overseas training opportunities, other training initiatives that maximize the limited time available to reservists to train, and the high degree of professionalism among reserve unit leaders all have contributed to the improved readiness condition of most reserve units. Third, increased appropriations in the 1980s and policy initiatives by the Department of Defense have permitted the distribution to reserve units of substantial amounts of modern equipment.

As potential threats to the United States change, National Guard and reserve units are likely to become more important. Early-deploying reserve units will continue to offer particularly valuable capabilities. For example, the law permits the President to call up to 200,000 members of the Selected Reserve to active duty without a declaration of national emergency. In a period of limited resources, the challenge will be to ensure that National Guard and reserve units are given adequate resources to perform their increasing responsibilities. This translates into requirements not only for equipment, but also for full-time support personnel (Table 6), training, and other needs.

Quality-of-Life Programs

Although compensation is critical to retention, many service members choose to remain in the military in part due to the nonsalary benefits it provides. These "quality-of-life" factors have become a key retention tool in the all-volunteer force.

The Department of Defense fully supports morale, welfare, and recreation (MWR) programs, education programs for military dependents, and family support services. MWR programs are a major contributor to community life on military installations throughout the world, providing a wide range of social, recreational, and personal development activities to approximately eight million patrons. As the Department searches for ways to conduct MWR programs with

Full-Time Support Personnel[a] (End Strength In Thousands)

Table 6

	Actual		Planned	
	FY 1980	FY 1989	FY 1990	FY 1991
Army National Guard	35.0	55.5	55.6	56.1
Army Reserve	17.0	27.7	27.9	28.4
Naval Reserve	20.8	32.0	33.1	33.9
Marine Corps Reserve	4.8	7.7	7.6	7.7
Air National Guard	25.8	34.2	34.8	34.7
Air Force Reserve	11.9	15.3	15.9	15.7
Total	**113.3**	**172.4**	**174.9**	**176.5**
Percent of Selected Reserve	13.1	14.7	14.9	14.9

a. Includes active guard and reserve, military technicians, active component, and civil service personnel.

constrained resources, the challenge is to make revenue-generating activities more reliant on their own incomes.

Dependent education is another important area in which we must maximize the benefits obtained from constrained resources. Students in DoD schools have scored above the national norm on basic skill tests and at or above the national average on college entrance exams. During the past eight years, enrollment in the Department's overseas schools for dependents has grown by nearly 20 percent, challenging our ability to maintain these high standards.

Along with MWR and dependent education, family support services are essential to a balanced and meaningful quality-of-life program. Examples include family advocacy programs, which address family violence; relocation programs, which ease the stress and strain of permanent changes of station on service families; and child care.

One of the Department's greatest family-support challenges is to meet the needs of its military and civilian personnel for high-quality child care at affordable prices. DoD has made progress in this program: some 1,600 new family day-care homes, providing care for over 12,000 more children, were certified between FY 1987 and FY 1988. Additionally, as new construction projects were completed and services expanded, 5,900 more children were accommodated in child development centers. Private financing is being pursued as a means of increasing capacity at these facilities, and DoD is working to raise child care standards. The Department's primary needs now are to replace inadequate, unsafe facilities and to build new ones to help meet substantial needs.

Readiness

Readiness for combat is a primary objective of peacetime training operations. Our forces must be manned, equipped, and trained to fight whenever they are called on to do so. Unless they are ready for combat, their sophisticated weaponry is of little value and deterrence becomes a hollow concept.

The readiness of a force to carry out its assigned missions is more than the sum total of the skills of its individual members. Readiness represents the culmination of the training of crews and units on their designated equipment and with their assigned weapon systems. The constant honing of teamwork skills, from carrier battle group operations to tank platoon maneuvers, is the key to readiness.

Operating tempos — ground vehicle miles, ship steaming days, and aircraft flying hours — are one of the yardsticks used to measure the training opportunities available to military personnel. Although increased operating tempos do not translate automatically into increased readiness, there is no doubt that without adequate levels of operation,

readiness deteriorates. The Department of Defense will maintain operating tempos at the levels needed to ensure ready forces. These numbers are reflected in Table 7.

To overcome certain personnel deficiencies in readiness for mobilization, the Department has taken steps to update its data bases, reorganize responsibilities for the land defense of the continental United States, improve mobilization exercises and include in them civilian mobilization, improve management of the Individual Ready Reserve, increase familiarity with plans for evacuating noncombatants from combat zones, enhance planning for the use of military retirees in wartime, and improve international mobilization planning capabilities with U.S. allies.

Goldwater-Nichols DoD Reorganization Act

Title IV of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 mandated extensive improvements in the area of joint officer personnel management.

During the past year, the Department has made significant progress in implementing Title IV. It continues to devote considerable effort to the identification of appropriate policies and procedures for effecting the changes called for by the act.

These efforts focus on eight areas:

- Service policy and procedures for selecting joint specialty officers and other officers serving in joint duty assignments.
- Revised definitions for dual-hat and cross-Department joint duty assignments.
- Criteria for designating jointly manned activities.

Operating Tempos

Table 7

	FY 1989	FY 1990[a]	FY 1991[a]
Flying Hours/Crew/Month			
Army Combat Forces	14.6	15.0	14.5
Army Reserve	8.0	8.0	8.0
Army National Guard	9.0	9.0	9.0
Navy/Marine TacAir/ASW	25.0	25.0	25.0
USNR/MCR TacAir/ASW	11.0	14.0	11.0
Air Force TacAir	19.3	19.5	19.5
ANG TacAir	11.0	11.0	11.0
AFR TacAir	11.0	11.0	11.0
Air Force Airlift	31.0	30.1	30.2
ANG Airlift	15.0	15.0	15.0
AFR Airlift	15.0	15.0	15.0
Air Force Strategic	18.2	17.7	17.6
ANG Strategic	16.0	16.0	16.0
AFR Strategic	16.0	16.0	16.0
Navy Steaming Days/Quarter			
Deployed Fleets	52.5	50.5	50.5
Non-deployed Fleets	27.5	29.0	29.0
USNR Non-deployed Fleets	21.0	21.0	21.0
Army Ground Miles/Year			
Army Reserve	820	800	800
Army National Guard	200	200	200
	288	288	288

[a] Requested

- Policies for awarding credit for joint tour completion;
- Procedures for securing early release from joint assignments;
- Policies addressing the required fill rates for joint duty billets;
- Promulgation of tour lengths of three years for field-grade officers and two years for general and flag officers; and
- Policies and procedures for updating the Joint Duty Assignment List.

A list containing 8,623 joint duty assignments has been published; some 1,024 billets on the list are designated as "critical assignments," to be filled by officers who have been awarded the joint specialty. To assist in managing the list, and to facilitate implementation of the career oversight and reporting requirements entailed in the Goldwater-Nichols Act, the Department has developed a Joint Duty Assignment Management Information System. Finally, it has conducted extensive reviews of joint education opportunities.

A detailed summary of DoD's progress in implementing the provisions of Title IV of the Goldwater-Nichols Act is provided in Appendix D.

Medical Services and Readiness

The Military Health Services System (MHSS) has a dual mission: to maintain medical wartime readiness and to provide a comprehensive peacetime health benefit to the United States' nine million active-duty service personnel, their dependents, retirees, and survivors. The Administration places high priority on improving the Department's performance of this dual health mission.

The peacetime health mission consists of two parts: a "direct care" side, which provides health care to beneficiaries in military medical facilities; and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), a cost-sharing system for care delivered by civilian health providers to eligible beneficiaries.

The direct care system comprises more than 800 medical and dental treatment facilities, including 168 hospitals, at military installations around the world. These are staffed by a force of health professionals, including almost 45,000 active-duty military personnel. DoD's military treatment facilities (MTFs) handle one million admissions and 50 million outpatient visits a year, making DoD the world's largest health care delivery system. CHAMPUS currently pays for about 30 percent of the care provided to DoD beneficiaries, also making DoD one of the largest buyers of health care in the civilian market.

The issues of health care quality, cost, and access pose great challenges to the Department of Defense. The cost of DoD health operations is growing by about 10 percent annually, while the overall DoD budget is declining in real terms.

Several issues require special attention:

- More care for the military community is moving from military treatment facilities to the higher-cost civilian sector (CHAMPUS), due in part to personnel shortages and management practices ill-suited to maximizing effective use of local resources and the potential of individual facilities.
- In general, it costs more for DoD to purchase care in the civilian sector than to provide it in military facilities, and the costs have been less controllable in the private sector than in the military medical structure. The Department needs to evaluate the combination of services that will enable it to maximize the value obtained from health care expenditures.
- Medical readiness, a critical element of U.S. warfighting capability and the primary mission of the military medical services, needs significant improvement. While progress has been achieved through special bonuses to health professionals with skills needed in wartime and through the purchase of deployable medical equipment, much remains to be done. Special emphasis must be given to the recruitment, training, and retention of key medical personnel and to adequate health care planning.

INDUSTRIAL BASE

A robust industrial base is essential to sustaining the might of the nation's defenses. The United States is strong militarily largely because it has had the resources, sophisticated manufacturing capability, and highly educated citizenry that it can call upon in times of emergency.

There are several key indicators, however, that provide evidence that the industrial base may be in trouble. The United States' share of the world machine-tool market, for example, is now less than half the 1980 level. During the past 17 years, U.S. firms have lost two-thirds of the domestic market for machining centers. A look at aggregate economic indicators also shows that the United States is losing ground when compared with other industrialized countries. For example, during the first half of the 1980s, the U.S. rate of growth in productivity was 3.5 percent, compared to almost 6.5 percent for Japan. In addition, the U.S. share of worldwide trade in manufactured goods has declined, while the sale of foreign goods in the United States has increased.

Furthermore, a series of major studies since the Packard Commission report have documented an alarming erosion in the U.S. defense industrial base. The following items were identified as reasons for concern:

- A decline in the overall number of defense suppliers;
- Accelerating penetration of foreign goods into U.S. markets and a growing dependency on foreign sources for vital components and subassemblies; and
- Decreasing returns on fixed assets, declining capital investments, and lagging productivity in key defense sectors.

If these trends continue unabated, they will jeopardize U.S. security.

At the heart of the problem is America's competitive strength. This is a highly complex issue, involving many factors beyond the reach or responsibility of any Defense Department policy or program. Exchange rates, tax policy, the cost of capital, labor-management relations, and industry's willingness to plan for long-term profitable growth instead of short-term profits all affect the competitiveness of American-made products. In addition, the trade policies of other countries can undermine domestic industries if they aim at gaining a market share in the United States by dumping goods at unreasonably low prices. The Department of Defense will cooperate with the government agencies that have responsibility for economic matters in the effort to improve America's economic strength.

To help U.S. manufacturers regain their competitive edge, DoD has outlined a strategy with six major strategic thrusts:

- Forging the right relationship with industry;
- Improving the acquisition system;
- Ensuring that industrial base issues important to our defense benefit from the full spectrum of potential policy remedies, when appropriate;
- Establishing defense industrial strategic plans that support military strategic plans;
- Developing manufacturing capabilities concurrently with development of weapon systems; and
- Laying the foundation now for the technical skill base required for tomorrow's defense needs.

With regard to defense production, the Department of Defense has two programs for improving productivity. One is the Manufacturing Technology (or "ManTech") program. Its primary goal is to improve the productivity and responsiveness of the defense industrial base by funding largely private-sector research efforts to develop advanced manufacturing technologies.

The Industrial Modernization Incentives Program (IMIP) is the other vehicle used by DoD to help defense contractors boost productivity. Unlike ManTech, which focuses on the development of new manufacturing processes, IMIP concentrates on modernization efforts that improve the productivity of existing facilities.

The Department has undertaken a variety of initiatives that are focusing greater attention on improving quality and productivity. It is working with its contractors to build a productive partnership to maintain the strength of the armed forces. Correcting the erosion of the U.S. industrial base will require the sustained attention of both DoD and private industry. The men and women in the Department depend on U.S. industry for the

equipment they need to perform their missions. Government and industry share the responsibility to provide it.

The Depart.-ent of Defense maintains plans to mobilize in incremental steps to permit the President and the Secretary of Defense to respond to early warning in a deliberate and timely manner and proceed with modulated responses to deter, mitigate, or recover from a crisis. This permits military forces and the defense industrial base to implement preplanned, graduated mobilization steps that are responsive to a wide range of national security threats and warning indicators.

ENVIRONMENT

Environmental issues are the subject of intense concern among leaders throughout our society and the world. The Administration is committed to protecting the environment, and the Department of Defense not only promotes, but seeks to be a leader in, environmental compliance and protection. Consistent with that aim, DoD is working to incorporate an environmental ethic into all defense activities.

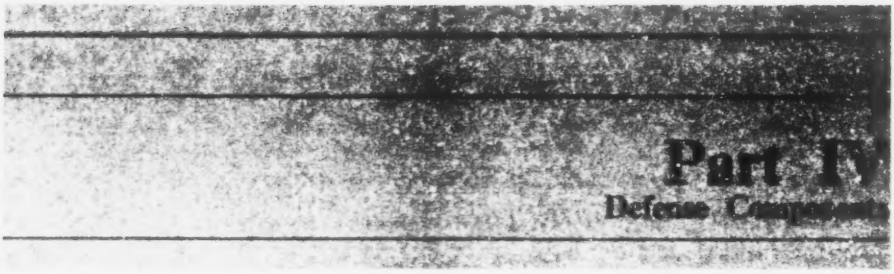
Two primary objectives underlie this effort: protecting long-term access to the air, land, and water needed to sustain mission capability, and enhancing the quality of life and the environment. Toward those ends, the Department of Defense has established six specific goals:

- Performing environmental impact analyses and conducting environmental planning early in the acquisition process;
- Identifying resources to meet environmental requirements using established programming and budgeting procedures;
- Maintaining internal communication programs that ensure DoD leaders and managers are aware of environmental requirements and external programs that provide communities information on DoD's environmental activities and compliance efforts;
- Minimizing pollutants from DoD installations and operations worldwide;
- Maintaining feedback systems that ensure each organizational level has sufficient information to comply with DoD environmental requirements; and
- Implementing management procedures that ensure the Department has the right people at the right place with the right training.

These goals will not be easy to achieve. Success will depend primarily on a multifaceted effort focusing on seven critical elements: cultural change, compliance, people, budget, training, communications/public affairs, and improving relations with regulatory agencies.

Major actions already under way include an extensive audit of environmental compliance. Some 900 installations have been surveyed to date, and more than 8,000 potentially contaminated sites have been identified. Another 7,000 sites on formerly used DoD properties are being reviewed. The Department seeks to correct all of these problems, but those that pose the greatest risk to public health and the environment must receive priority for cleanup. The Department also is working to reduce the use of hazardous materials and avoid the generation of hazardous waste, as part of an ongoing effort to achieve significant reductions in hazardous waste generation by 1992. Continued emphasis in all other areas, such as air, water, and toxic substances, will enhance our total posture and reaffirm our resolve to serve as a model of compliance within the regulated community.

Environmental protection is an important part of the defense mission. As steward of nearly 25 million acres of public lands and billions of dollars worth of facilities, the Department of Defense has a responsibility to conserve and restore the natural resources entrusted to it.


Part IV

DEFENSE COMPONENTS INTRODUCTION

The highest priority of the Department of Defense is deterrence of war and the maintenance of U.S. freedom. Should deterrence fail, United States military forces must be structured, deployed, and ready to provide the President in time of crisis a variety of flexible response options which enable control of escalation and termination of conflict on favorable terms. These forces must provide capabilities across the entire spectrum of challenges to national security — from global war to low-intensity conflict.

Readiness, modernization, and balance are three vital concerns which the Department addressed in all the defense component programs. Readiness remains a high priority because ready forces are a prerequisite to deterrence. Critical to readiness is the well-being of our uniformed personnel. United States forces must be highly trained, fully equipped, and well-led if they are to act quickly and effectively in performing their missions. Recent events in Panama, the U.S. Virgin Islands, and the Andean countries underscore the critical role that ready forces play. All of our forces — forward deployed and CONUS based, active and reserve — must be prepared to execute their missions in the required time.

Modernization is a continuous process that involves not just equipment but constant reassessments of and adjustments in doctrine, force structure, and training. In upgrading our equipment, we seek to improve the combat effectiveness of our forces, within budget constraints, by providing modern equipment to the units who would be first to fight. Our programs are designed to increase the lethality and survivability of our forces, while limiting the disruptions in training and readiness that often accompany the introduction of new equipment. Currently, the Department has important initiatives in progress that are essential to the modernization of our forces — from weapon systems to command, control, communications, and intelligence (C^3I) programs.

Finally, the Department has endeavored to achieve a balanced mix of active and reserve forces which helps hold down costs while maintaining strength.

NUCLEAR FORCES AND STRATEGIC DEFENSE

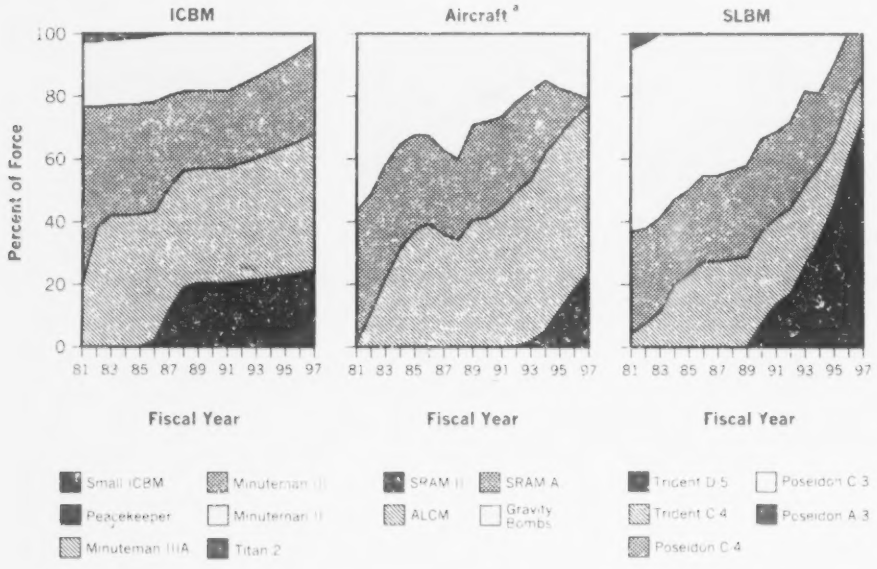
Nuclear Deterrence Policy

Nuclear weapons have played a crucial role in U.S. national strategy for more than 40 years, and they will continue to do so. In addition to deterring nuclear war, these systems contribute to deterrence of conventional aggression against the United States and its allies.

The United States maintains nuclear forces that are capable of retaliating effectively against the Soviet leadership's most valued assets. To perform their mission, U.S. nuclear forces must not only be able to survive an initial attack; they must have sufficient accuracy and yield to deliver an effective retaliatory response, and they must have effective modes of delivery and effective systems for command and control.

Strategic Offensive Force Structure
(Inventory of Warheads)

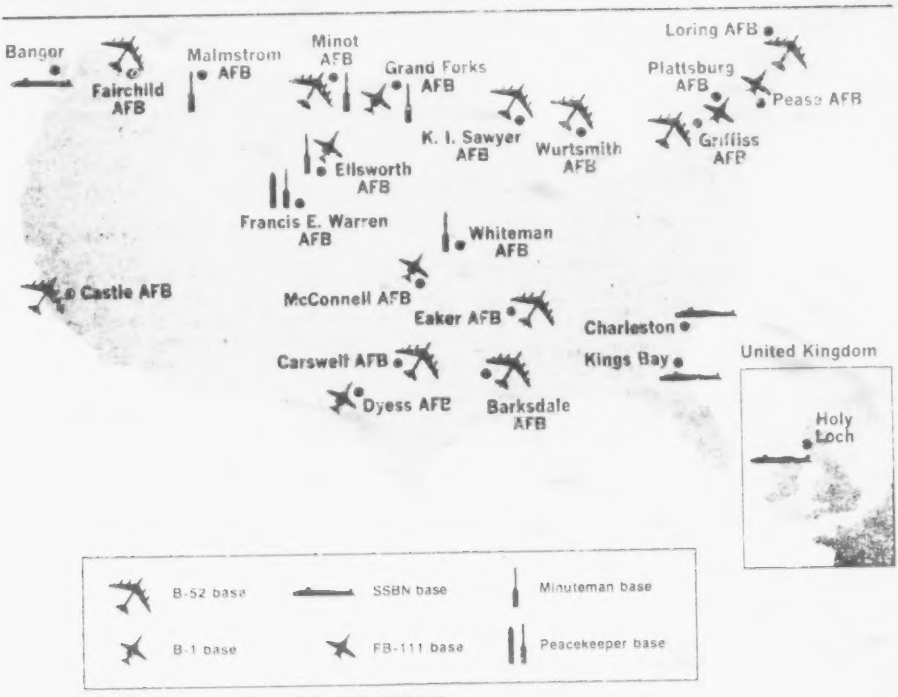
Chart 6



[a] Represents weapons which could be loaded on all operational bombers. Does not represent the loading that would be used under a START agreement.

The Soviet strategic nuclear force posture remains strong. The Soviet Union is expected to continue pursuing a vigorous modernization program even after the U.S. and U.S.S.R. conclude a strategic arms reduction treaty. Today, the Soviet Union is fielding simultaneously two new intercontinental ballistic missiles (ICBMs) and a modernized variant of the SS-18, two strategic submarines and their associated submarine-launched ballistic missiles (SLBMs), and two new bombers. The Soviets also have pursued aggressively a decade-long program of nonstrategic nuclear modernization that includes missiles and artillery systems, as well as sea-based systems. The Soviet leadership continues to emphasize survivability and endurance in a nuclear war, as evidenced by the ongoing construction of deep underground command centers. The modernization and expansion of Soviet air defense and ABM systems also continue. To meet the strategic challenge posed by these modernized Soviet nuclear forces, the United States must continue to maintain a robust and credible U.S. nuclear deterrent.

Locations of U.S. Strategic Offensive Forces Chart 7



The Requirements of Flexible Response

To keep the flexible response strategy truly effective, the President must have a wide range of retaliatory options, including nuclear ones. To help deter both conventional and limited nuclear attack, and to fulfill alliance commitments, the United States must have a range of militarily effective, but nevertheless discrete and recognizable, nuclear responses. These response options, which involve both strategic and nonstrategic forces, give us the ability to impose significant penalties on an aggressor and limit his ability to continue an attack. At the same time, the intent of these options is fundamentally political: to convince the enemy leadership that it has gravely miscalculated our resolve, that we possess substantial military capability to inflict further harm, and that it is in the enemy's interest to halt its aggression and withdraw.

The Strategic Modernization Program

The Land-Based Missile Force.

The Administration's approach to modernizing the U.S. ICBM force calls for a two-phased effort. For the near term, the Department seeks to rebase 50 silo-based Peacekeeper missiles on railroad cars. The Peacekeeper is a proven asset which, due to its high accuracy, can hold at risk nearly all of the hardest Soviet targets. By removing these missiles from their silos and placing them on specially configured railroad cars, the United States can, in the shortest possible time and for the least amount of money, improve the survivability of its ICBM force. The survivability and flexibility created by rail basing will greatly strengthen deterrence by complicating the Soviets' ability to attack these missiles, thereby reducing their confidence in being able to strike our forces successfully.

The United States also is proceeding with research and development of the new small ICBM (SICBM). This lightweight, road-mobile, single-weapon missile has the ability to move rapidly in response to attack warning. Its high degree of resistance to the effects of even a nearby nuclear explosion makes it a highly survivable weapon.

The Strategic Submarine Force.

The modernization of our strategic submarine force is replacing aging boats with more capable vessels and strengthening the overall contribution of the force to nuclear deterrence.

The U.S. sea-based strategic nuclear deterrent currently consists of 11 Lafayette-class fleet ballistic missile submarines (SSBNs) carrying the Poseidon C-3 missile, 12 Lafayette-class SSBNs carrying the Trident I C-4 missile, and eight Ohio-class SSBNs carrying the Trident I missile. Additionally, one Ohio-class SSBN will soon be armed with the new Trident II D-5 missile. To maintain a sufficient number of SSBNs in active service as aging boats retire, the Department continues to build Ohio-class SSBNs. Nine of these boats are already operational, and eight others are in various stages of construction.

The Trident II D-5 SLBM will represent a highly significant addition to our deterrent arsenal. It combines the survivability and endurance qualities traditionally associated with the SLBM force with the capability to retaliate quickly against nearly all of the hardest Soviet targets. The Trident II enhances deterrence by diminishing the value to the Soviets of seeking to attack our ICBMs and bombers, since the United States would retain the ability with SLBMs to strike the spectrum of Soviet targets effectively, even under the worst of circumstances.

The Strategic Bomber Force.

The revolutionary B-2 bomber successfully completed several test flights in 1989. Since the B-2 is a manned aircraft, it is a flexible weapon that can be recalled or retargeted after launch. It also has direct tactical applications in conventional war scenarios. The combination of the B-2, the B-1B and cruise-missile-equipped B-52s forces the Soviet air defense system to confront both standoff and penetrating weapons from all directions.

Command and Control.

The vital Milstar satellite system will, among other things, provide survivable and endurable communications support for the President and Secretary of Defense in the event of a nuclear attack. The system is designed to support command and control functions against any level of jamming and during nuclear exchanges.

Nonstrategic Nuclear Modernization Program

As noted at the May 1989 NATO summit, nonstrategic nuclear forces provide an essential political and military link between conventional and strategic nuclear forces and between the

European and North American members of the alliance. They ensure that there are no circumstances under which a potential aggressor might discount the prospect of nuclear retaliation in response to an attack; thus, they provide an essential contribution to deterrence.

The NATO heads of state also reaffirmed at the summit the importance of a deterrence strategy based on an appropriate mix of adequate, effective, and modern conventional and nuclear forces. They further stated that land-, sea-, and air-based systems, including ground-based missiles, are needed in Europe now and for the foreseeable future.

Consequently, to ensure that we have a credible nonstrategic nuclear deterrent force into the 21st century, the United States is continuing development of two new missile systems — the ground-launched Follow-On to Lance (FOTL) and the Short-Range Attack Missile-Tactical (SRAM-T). The FOTL, which is intended to replace the aging Lance system, will possess greater range, mission flexibility, and survivability than its predecessor, while permitting much more efficient utilization of personnel. The SRAM-T, a stand-off weapon, will extend the effective range of U.S. and NATO dual-capable aircraft, permitting them to attack high-value targets without being exposed to terminal air defenses. Deployment of the FOTL and SRAM-T would contribute significantly to maintaining a credible and effective nuclear deterrent.

The United States also is continuing to modernize its other nonstrategic nuclear forces, including artillery-fired atomic projectiles, dual-capable aircraft, nuclear gravity bombs, and the nuclear version of the Tomahawk sea-launched cruise missile.

Strategic Defense

Strategic defenses encompass those systems that protect U.S. territory from nuclear attack or coercion. At present, these systems serve primarily a warning function. The Defense Support Program, the Ballistic Missile Early Warning System (BMEWS), PAVE PAWS radars, and the Nuclear Detonation Detection System would warn and assess the magnitude of an ICBM or SLBM attack. The North Warning System, the Over-the-Horizon Backscatter Radar network, and the Distant Early Warning Line would provide notice of a bomber attack. Ground-based deep-space surveillance systems and space surveillance radars monitor U.S. and Soviet space assets. With the exception of a relatively small force of active and reserve air defense fighters, the United States has no operational means of defending against a strategic nuclear attack.

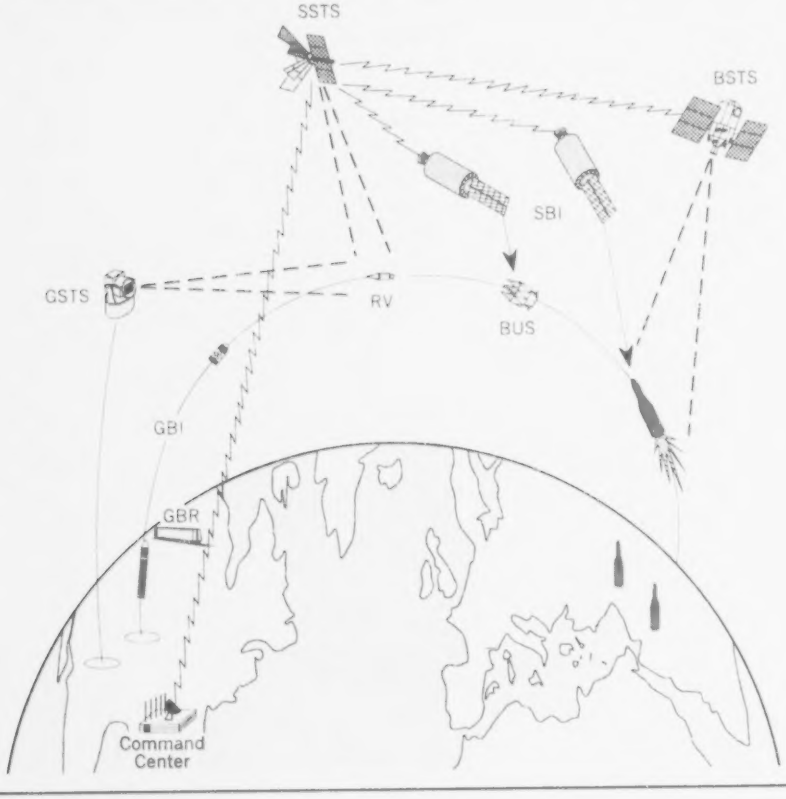
Numerous technologies are envisioned for the future that could help rectify this situation. The most promising lie within the purview of the Strategic Defense Initiative (SDI). The technology development programs being pursued under SDI are needed to respond to new challenges and take advantage of emerging technologies. Such research will provide us the opportunity to strengthen deterrence by making a fundamental change from our traditional offensive orientation to a greater reliance on defensive systems.

While the basic missions of strategic nuclear offensive forces have remained fundamentally constant over the last 40 years, capabilities have changed dramatically over time in response to changes in technology, policy, and the Soviet threat. Until the early 1960s, the United States relied on its massive strategic superiority, including a substantial commitment to air defense, to deter, and if necessary, defeat a Soviet attack on the United States or its allies. However, as Soviet nuclear capabilities grew in the late 1950s and early 1960s, the threat of massive retaliation lost credibility. The United States then shifted to a strategy of flexible response.

The increasing importance of ballistic missiles in the Soviet arsenal of the late 1960s meant that air defenses would be increasingly ineffective in limiting damage from an attack. In 1972, the United States and the Soviet Union signed the Anti-Ballistic Missile (ABM) Treaty. This country developed and deployed a limited ballistic missile defense for a brief time and then dismantled it. Subsequently, we made little effort to defend against Soviet strategic nuclear attack, and the U.S. strategic defense program became focused primarily on providing warning of attack. U.S. efforts basically were confined to passive defensive measures, such as hardening of ICBM silos and critical command and control facilities, posturing of bombers and ballistic missile submarines to increase their survivability, and providing for continuity of governmental operations.

Interim SDS Phase One Architecture Concept

Chart 8



Symbols & Abbreviations:

Communication Lines
Sensing Lines
Interception Lines

BSTS - Boost Surveillance and Tracking System
SSTS - Space Based Surveillance and Tracking System
GSTS - Ground Based Surveillance and Tracking System
GBR - Ground Based Radar
SBI - Space Based Interceptor
GBI - Ground Based Interceptor
RV - Reentry Vehicle

During this same period, the Soviet Union took a very different approach, and today, modernizing Soviet strategic nuclear offensive forces are structured to emphasize their ability to strike U.S. forces. To limit damage from the U.S. weapons they could not destroy in a counterforce attack, the Soviets emphasized defenses. As a result, the Soviet Union currently has a very extensive air defense network, and it deploys an ABM system around Moscow. The Soviets have long maintained an aggressive program to develop advanced defenses against ballistic missiles, and they continue to invest heavily in passive defenses.

In the 1980s, building on an ongoing R&D program, the United States began reexamining the potential role of defenses, establishing the Strategic Defense Initiative Organization to conduct a broadly based R&D effort to determine the feasibility of effective ballistic missile defenses.

The Department of Defense plans to pursue aggressively options for layered defenses that include both ground- and space-based elements. The program emphasizes flexibility as we progress towards deployment of a system that meets the requirements of a first phase Strategic Defense System (SDS) as defined by the Joint Chiefs of Staff. Pursuit of a robust SDI program also will provide an effective hedge against any near-term Soviet decision to expand rapidly its antiballistic missile capability beyond that allowed by the ABM Treaty. Nonetheless, the U.S. strategic defense program will be conducted in compliance with U.S. legal obligations, including the ABM Treaty.

The SDI program now has completed over 400 tests and experiments, including the miniaturization of component technologies and a vast reduction in unit costs. If planned experiments yield the results that appear likely, the SDI program should soon demonstrate its ability to contribute significantly to deterrence. With the emphasis on developing defensive technologies and reducing costs, initial deployment of SDI could begin by the turn of the century.

The new technologies being investigated under SDI could provide the United States with the capability to enhance deterrence significantly, not only against Soviet strategic attack but also attacks of other countries that may develop their own missiles armed with nuclear and chemical warheads. The SDI program has enjoyed significant achievements in proving the feasibility of effective defenses.

LAND FORCES

The land forces of the United States are trained, equipped, and organized to deter war and protect vital U.S. interests around the world. Consisting of Army and Marine Corps units (less tactical aviation elements), these forces are essential to our defense. Through strength and readiness, they help persuade potential aggressors that resorting to armed conflict would not produce the aggressors' desired ends. Should deterrence fail, land forces provide unique warfighting capabilities that would be essential to restoration of peace on terms that preserve U.S. security and protect national interests. Their capabilities include defending and seizing vital land areas and conducting prompt and sustained land campaigns to achieve national military objectives. In peacetime and war, vigilant soldiers and Marines are persuasive symbols of the nation's strength and of its ability and willingness to meet global commitments. Operation Just Cause in Panama, which defended Americans, protected the Panama Canal, restored democracy, and brought Manuel Noriega to justice, showed the critical importance of highly trained and fully ready land forces.

Because the United States' security interests are linked to those of allied and other friendly nations, our forces must be prepared to counter threats on a global basis. These threats persist as developing nations gain increasingly deadly military capabilities, and as the Soviets continue to improve their forces through programmatic equipment modernization. Although proposals for conventional force reductions in Europe should hold great promise, we must ensure that our forces remain capable of countering Soviet and Eastern European military capabilities as they currently exist. In addition to the Department's traditional mission of defending against conventional attacks, U.S. land forces must maintain the capability to conduct contingency operations, cope with low-intensity conflicts, and deal with terrorism and illegal drug activities. Also, given the attractiveness of chemical weapons to Third World countries, the United States must be able to deter the use of chemical weapons against our forces through a strong chemical defense capability and a credible chemical retaliatory capability.

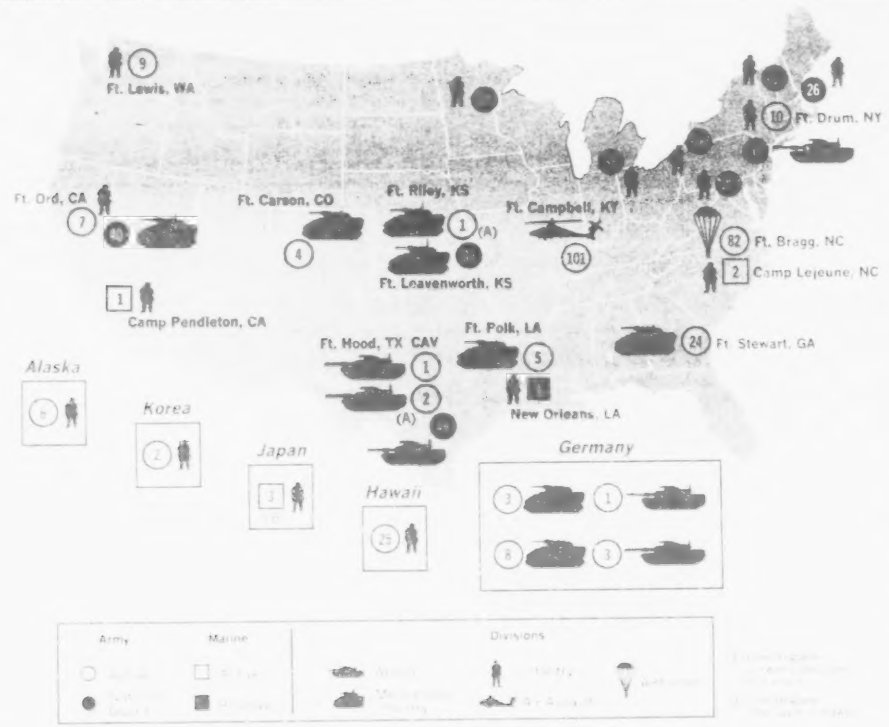
To meet these wide-ranging requirements, the United States needs a mix of ground forces that are trained to respond to a variety of needs. Heavy forces provide the only counter to the massive armored forces that the Soviet Union and others can field. Additionally, similar forces may be needed in some areas of the Third World where potentially hostile countries have acquired increasingly sophisticated and lethal conventional and chemical/biological weapons. Light forces can be moved rapidly to trouble spots. Special operations forces are specially designed, equipped, and trained to perform their designated missions. Forward-based forces add to our deterrent strength and give us the ability to respond immediately to events, while forces stationed in the continental United States (CONUS) give us the flexibility to deploy to conflict regions as needed. Active forces provide immediate-response capabilities and flexibility, while the reserves permit the time-phased expansion of military strength to meet the requirements of sustained combat. Each of these force elements must be continuously tailored to support the evolving security requirements of the United States.

Seven critical requirements guide decisions on the land force structure:

- Forward defense through forward presence, by which we complement allied forces in deterring threats to our vital interests.
- CONUS-based forces, to reinforce our forward-deployed units should deterrence fail
- Rapid deployment capabilities, to protect U.S. interests in regions where U.S. forces are not routinely stationed.
- Combat support and combat service support capabilities, to sustain our combat forces.
- A balanced mix of active and reserve forces, to help hold down costs while maintaining strength.
- Prepositioning of high-priority equipment and supplies ashore and afloat in areas of critical interest.
- Sufficient stocks of war-reserve equipment and supplies to sustain deployed forces until a mobilized production base can meet wartime demands.

About half of the Army's combat forces are in the active component. The bulk of the combat support and combat service support units are in the reserves. The Army's active component contains 18 divisions. The reserve component includes 10 divisions with seven brigades and five

Deployment of U.S. Divisions Chart 9



battalions that are used to round out nine of the active divisions. The Marine Corps maintains three active divisions and associated support elements for use in three Marine Expeditionary Forces, along with one reserve division and their support elements to augment those forces in wartime. Marine land and tactical aviation forces organized in Marine air-ground task forces (MAGTF) provide a unique and valuable defense capability.

The land force programs included in the FY 1991 budget will provide a force structure that enables us to carry out successfully the requirements of our national security strategy, now and in the foreseeable future. The Department endeavors to do more with less in this constrained fiscal environment.

Army and Marine Division Structure

Table 8

	Heavy[a]	Light[b]	Total
Active Army Divisions			
Fully Active	4	5	9
Roundout (Battalion)	2	—	2
Roundout (Brigade)	4	3	7
Army National Guard	4	6	10
Active Marine Corps	—	3	3
Reserve Marine Corps	—	1	1
Total	14	18	32
Nondivisional Maneuver Brigades/Regiments[c]			
Active Army	6	2	8
Army Reserve Components	9	9	18
Total	15	11	26

[a] Armored, mechanized.

[b] Marine forces, and Army infantry, air assault, airborne, light infantry, and motorized divisions.

[c] These units have not been assigned a roundout mission.

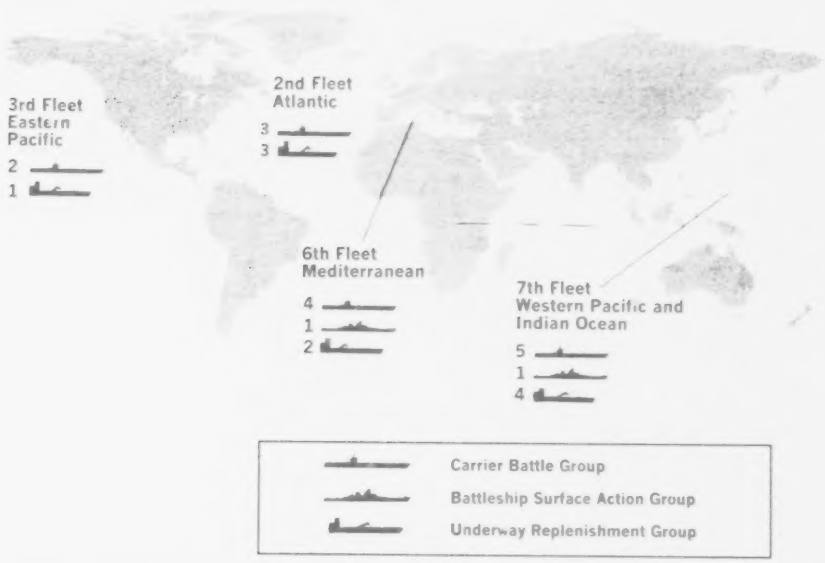
NAVAL FORCES

Maritime forces are vitally important to the success of the U.S. defense strategy, which is based on deterrence, forward defense through forward presence, and allied cooperation. Naval forces provide the means to satisfy a great diversity of requirements in support of that strategy.

The structure and operations of the U.S. Navy are critically influenced by global threat assessments. The United States must retain the ability to project power to critical regions of the world to deter would-be aggressors, support the favorable resolution of crises, honor commitments to allies and friends, carry on the fight against illegal drugs, and maintain unimpeded access to the sealanes on which the economic interests of the United States and the rest of the free world depend. U.S. naval forces are especially suited to meeting these commitments. In particular, aircraft carrier battle groups, the core of the U.S. power-projection capability, play a crucial role in the U.S. national security strategy.

Wartime Disposition of U.S. Naval Fleets

Chart 10



The threats to our maritime security are considerable. Soviet naval capabilities and the threat that they pose to the United States and its allies remain strong. U.S. forces now face sizable, highly capable Soviet maritime forces. The Soviet Union is continuing to build advanced, multimission submarines, surface ships, and aircraft. Their production lines are turning out blue-water platforms with improved weapon and sensor capabilities.

The Soviet navy has improved its capability to conduct naval warfare with an arsenal of nuclear and conventional weapons launched from ships, submarines, and aircraft, and by land-based forces, assisted by a wide variety of targeting systems, including space-based systems. Examples of recently introduced Soviet military platforms and weapons include the highly sophisticated Akula-class nuclear attack submarine and the new Tbilisi-class large deck carrier. The Soviets also are continuing development of long-range sea-launched cruise missiles, including the SS-N-21 and the SS-NX-24.

To meet these commitments and threats, the Navy requires a mix of forces capable of performing a broad range of missions. The FY 1991 budget bolsters maritime defense capabilities by building on the pillars of readiness, modernization, and force structure, with major programs in the areas of antisubmarine warfare (ASW), power projection, antiair warfare (AAW), mine warfare, and anti-drug efforts.

Antisubmarine warfare is a critical warfighting priority. Of the various threats to the United States' ability to support allies and other interests abroad, Soviet submarine capabilities pose the greatest potential challenge. Against that threat, the Navy employs a layered ASW strategy, in which hostile submarines would be detected and engaged in forward areas and at geographic choke points, before they could threaten U.S. forces or disrupt sea lines of communication.

Four key resources combine to form a web of ASW capability: surveillance systems, attack submarines, maritime patrol aircraft, and surface combatants operating in conjunction with ASW aircraft. Special capabilities in each area, and balance among these areas, are prerequisites for an effective ASW force that can meet the challenge posed by the newer, quieter, and more lethal Soviet submarines.

The most effective defense against threats to maritime forces is to strike as far forward as possible at the aircraft, submarines, and ships that carry antiship missiles. Defending against the missiles themselves is a particularly difficult challenge. As antiship threats proliferate, primarily in the form of cruise missiles, the United States faces the challenge of developing quicker-reaction systems to cope with these threats.

While the Navy's peacetime presence mission requires relatively close proximity to land, the proliferation of ground- and air-launched cruise missiles greatly complicates the fleet's air defense problem. Unlike the submarine threat, which emanates almost exclusively from the Soviet challenge, air threats to U.S. naval task forces and convoys come from an ever-expanding list of nations.

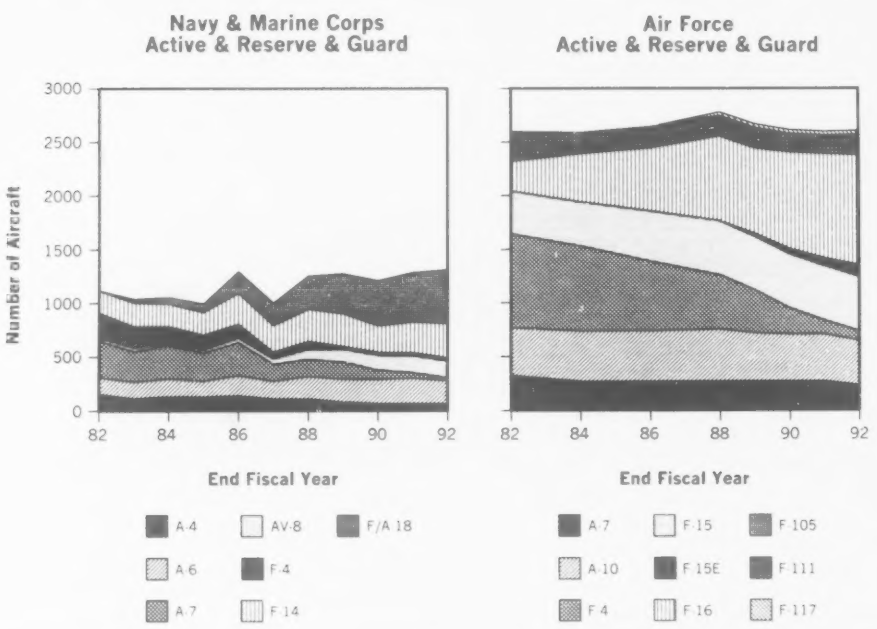
Power-projection forces are increasingly important elements of the U.S. strategy. These sea-based forces — primarily aircraft carrier battle groups and Marine expeditionary forces — provide a highly mobile and flexible deterrent along with warfighting capabilities of vital importance. With a shrinking overseas base network and fewer nations willing to allow U.S. access to their facilities, the ability to project power over extended distances grows more difficult. The capabilities of our maritime power-projection forces have therefore become even more vital to our security.

Because of their mobility, flexibility, and readiness, strong and balanced naval forces will remain absolutely essential to preserving peace and freedom and advancing American interests around the globe.

TACTICAL AIR FORCES

The Department of Defense is fundamentally committed to providing prompt and sustained offensive and defensive air operations in the midst of a dynamic and increasingly sophisticated threat environment. This basic mission today translates into three essential capabilities: (1) the capability to provide air support to land and sea forces, both in a defensive mode to achieve air supremacy and in an offensive mode in direct support of engaged friendly forces; (2) the capability to attack enemy air bases and ground forces beyond the front lines, and (3) the capability to operate independently of fixed or local basing and deployment support.

Tactical Air Force Structure Chart 11



Locations of Air Force Tactical Fighter Wings

Chart 12

[a] Wing to move to Italy

Air Force tactical air forces must be capable of fighting both day and night and in adverse weather. The aircraft and weapons they employ must be able to locate and destroy mobile tactical targets as well as fixed targets, such as airfields. In addition, these forces must be able to achieve and maintain air superiority in a dynamic combat environment in order to protect friendly land and sea operations, support air interdiction campaigns, and allow freedom of action to conduct other combat missions.

At present, these needs are fulfilled by F-16, F-15, F-117, F-111, F-4, A-10, and A-7 aircraft in numbers equivalent to more than 36 tactical fighter wings (each equipped with 72 combat aircraft). Six wing-equivalents are dedicated to the close air support mission, seven to air superiority, almost eight to interdiction (including battlefield interdiction), and more than 15 to multiple roles. (Included in this latter category are aircraft capable of either air-to-air or air-to-ground combat, such as the F-16 and F-15E.) The Air Force also operates a significant number of aircraft that are specially equipped to perform reconnaissance, airborne warning and control, tactical air control, electronic combat, air rescue, and other support missions.

Disposition of Navy and Marine Corps Air Wings Chart 13

Note: Chart reflects the nondeployed locations of 13 active and two reserve Navy air wings and three active and one reserve Marine aircraft wings.

Navy tactical air forces also must have day, night, and adverse weather capability. These forces provide direct support for deployed naval surface units as well as a sea-based air attack capability that is not dependent on access to land-based facilities. Naval aviation forces must be able to locate and destroy mobile tactical targets, both at sea and ashore, as well as fixed targets, such as airfields.

To provide these capabilities, the Navy currently maintains 13 active and two reserve carrier air wings. Each wing is composed of a mix of combat and support aircraft. These systems perform the full range of naval tactical air missions: air superiority, surface attack, surveillance, command and control, electronic countermeasures, in-flight refueling, antisubmarine warfare, and search and rescue operations. The composition of the wings varies according to aircraft carrier type, aircraft inventories, and other factors.

The Marine Corps' tactical air forces are an integral part of the Marine Air-Ground Task Force (MAGTF) concept. As such, they provide highly specialized capabilities for direct support of Marine ground elements. Marine tactical aviation forces are structured to perform air superiority, ground attack, electronic combat, and in-flight refueling and other support missions. The Marine Corps emphasizes organic close air support for engaged Marine troops and relies on the Navy for certain other capabilities, such as early warning and control. The Marines maintain three active and one reserve air wings. Their wings are "composite" structures, incorporating a wide range of fixed-wing aircraft as well as attack and transport helicopters.

This current tactical air force structure effectively supports today's defense strategy. Tomorrow's threat environment, however, will be shaped by the unpredictable forces that are defining this period of international transition. The Department will structure, train, and equip our air forces to respond effectively to any future challenge.

Typical Composition of Navy and Marine Corps Air Wings

Table 9

Navy			Marine Corps	
	Number of Aircraft			
Type of Aircraft	Traditional Wing	"Roosevelt" Wing	Type of Aircraft	Number of Aircraft
F-14	24	20	F/A-18	48
F/A-18 (or A-7)	24	20	A-6	20
A-6	10	20	AV-8B	60
KA-6D	4	0	TA-4/OA-4	9
EA-6B	4	5	RF-4 or F/A-18	8
E-2C	4	5	EA-6B	6
S-3	10	10	KC-130	12
SH-3	6	6	CH-46	60
Total	86	86	CH-53	48
			AH-1	24
			UH-1	24
			OV-10	12
			Total	331

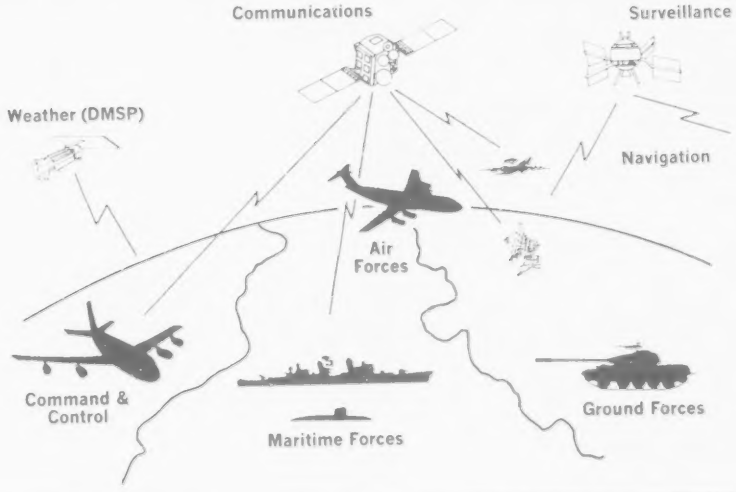
SPACE FORCES

Space long ago joined land, sea, and air as an environment in which the Department of Defense operates. The Department relies heavily on space systems to perform its various functions. Should deterrence fail, these systems would be critical to the defense of the United States and its security interests.

Space systems provide communications, surveillance, and navigation support, as well as meteorological and oceanographic information. They also are essential for treaty compliance monitoring, early warning, and strategic defense. Given the critical roles these systems play in defense missions, the United States must ensure that hostile forces cannot destroy or blind its space assets or deny its use of what has been called "the ultimate high ground."

Recent U.S. and Soviet proposals to reduce nuclear and conventional forces have focused attention on the importance of space systems. The potential for reducing nuclear and conventional armaments, decreasing tensions, and stabilizing relations with the Soviet Union hinges significantly on our ability to verify Soviet compliance with arms agreements and to protect the means by which we do so. Space assets are crucial to an effective verification capability.

Multiple Roles of Space Systems Chart 14



The Department of Defense must develop and maintain space forces that fulfill both service-specific and Department-wide needs. To meet this dual requirement in a period of budgetary restraint, we seek to reduce the cost of our space infrastructure by designing systems that can more directly satisfy the full spectrum of operational requirements.

In light of the critical importance of space forces, the United States is seeking to improve its space launch; command, control, and communications (C^3); and other capabilities useful in control of space, such as an antisatellite capability. We have made considerable progress toward the goal of assured access to space. The return to operational flights of the space shuttle, and the successful launches of all of DoD's operational space boosters in 1988 and 1989 (Atlas, Scout, Delta, and Titan), were major steps in the assured access effort.

In 1989, the Department successfully launched its heaviest unmanned booster, the Titan IV, and a medium-lift vehicle, the Delta II. The Titan IV program is being expanded, both in numbers and in upper-stage capability, to accommodate heavy payloads that have been removed from the shuttle program. This transition was necessary to relieve the overcrowded shuttle manifest, achieve deployment flexibility and replenish high-priority space systems, provide an alternative launch means when orbit inclination requirements could not be satisfied by the shuttle, and reduce the cost of space launches. Progress continues on the Atlas II, which will carry intermediate-class payloads. Additionally, under a restructured Advanced Launch System (ALS) program the Department is investigating new technologies that could substantially reduce the cost of putting spacecraft into orbit in the future.

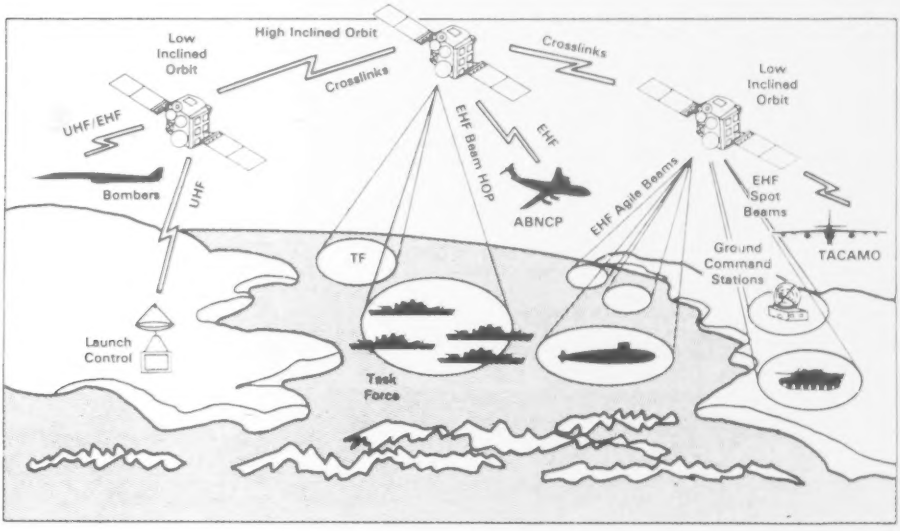
Existing military satellite communications systems are being upgraded and modified to increase their reliability and capacity. These include FLTSATCOM AFSATCOM, an ultrahigh frequency (UHF) system that supports mobile user requirements, and the superhigh frequency (SHF) Defense Satellite Communications System (DSCS). Of the five operational and two on-orbit spare DSCS satellites, four are DSCS IIIs and three are older DSCS II models. The transition of the full DSCS constellation to the upgraded DSCS III version will be complete in the early 1990s. The new extremely high frequency (EHF) Milstar satellite system will provide survivable and endurable communications links that are highly resistant to jamming and to the effects of nuclear weapons. This constellation is scheduled to go into operation before the turn of the century. Together, these systems will provide secure, survivable, and reliable communications support for our forces, and enable them to operate with NATO and other friendly forces on a global basis.

The NAVSTAR Global Positioning System (GPS), with a primary mission of providing extremely accurate position-locating data to U.S. forces, has moved further toward a fully deployed constellation of satellites. As of December 1989, four operational GPS satellites have been launched, joining the six developmental systems already in space.

During a crisis or conflict current satellite constellations might not be capable of satisfying peak demands simultaneously in various regions of the globe should launch or on-orbit failures occur. Small tactical satellites that incorporate extremely advanced technologies and that could be launched by small vehicles could provide a cost-effective means of quickly augmenting our space force structure. Defense Advanced Research Project Agency's (DARPA's) Advanced Space Technology Program (LIGHTSAT) is investigating the technologies that would be required by such satellites and their support systems.

More immediate improvements in space capability are being provided through the modernization of the satellite control network at the Consolidated Space Test Center (CSTC) at Onizuka Air Force Base, California, and the Consolidated Space Operations Center (CSOC) at Falcon Air Force Base, Colorado. In 1989, the upgraded capabilities offered by these networks were crucial in supporting launches of two classified payloads, two SDI experiments, and the first three Block II GPS spacecraft. Installation also was completed last year of new automated remote tracking stations at Thule Air Base, Greenland; Falcon Air Force Base, Colorado; and Oakhanger Air Base, in the United Kingdom. Additionally, the United States completed the turnover of primary GPS control authority from CSTC to CSOC. Efforts to transfer control of the Defense Support Program, Defense Meteorological Satellite Program, and DoD communication satellites to CSOC continue.

MILSTAR Configuration Chart 15



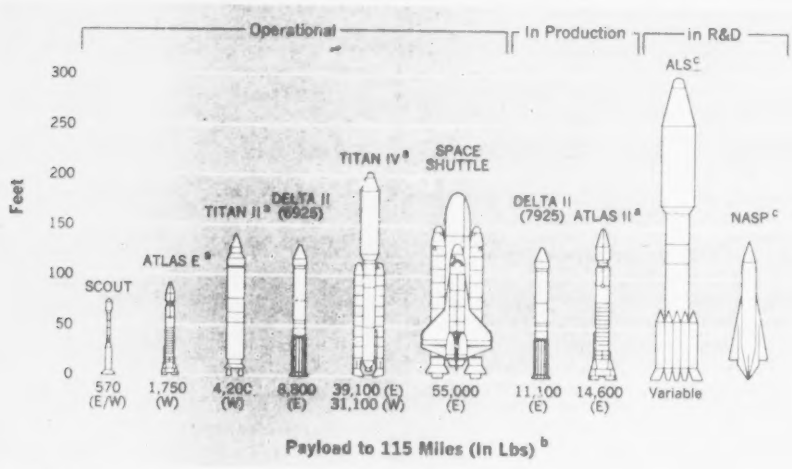
Much remains to be done. In spite of the promise of reduced U.S. and Soviet force levels, trends in Soviet capabilities continue to be a concern. The Soviet space program has grown steadily for several decades. In the 1980s, the Soviets introduced several significant assets, and demonstrated an ability to rapidly reconstitute lost or degraded capabilities in space. With a large and responsive space infrastructure, and a continuing presence in space, the Soviets could simultaneously threaten some U.S. or allied on-orbit assets with their operational antisatellite systems and service their capable fleet of manned and unmanned space platforms.

Other Soviet assets that pose a potential threat to our forces are space-based targeting satellites. These systems, which can track some U.S. and allied naval and land-based forces, could provide precise targeting data in times of crisis or conflict. An ASAT capability would be a vital part of our force posture, contributing substantially to our ability to deter both conventional and nuclear war and to protect our forces, should conflict occur.

Space has become an arena of intense national security interest. The ability of the United States to deter aggression and defend its interests depends vitally on U.S. space programs.

U.S. Space Launch Vehicles

Chart 16



[a] Ballistic Missile Derived
[b] Approximate
[c] Height Approximate
(E) East Coast Launch - Low/Mid inclination
(W) West Coast Launch - Polar inclination

STRATEGIC MOBILITY

The rapid projection of military power to protect security interests around the globe is a vital component of the U.S. defense strategy. In wartime, the United States must be able to reinforce its forward-deployed forces and support allies, while countering threats in other regions important to U.S. security. In peacetime, it must be able to project power and influence in regions of U.S. and allied interest where U.S. forces are not routinely stationed.

U.S. military strategy calls for forward defense through forward presence, and for the rapid projection of combat forces and materiel in times of crisis. The success of that strategy hinges on the capabilities provided by airlift, sealift, and land and afloat prepositioning programs. As the United States adjusts to changing circumstances in Europe and adapts the composition of its forces, strategic mobility must remain a key component of the U.S. defense posture. Strategic mobility will become even more crucial to the protection of U.S. global interests in the future, as the U.S. presence abroad is reduced under negotiated agreements.

In the event of war in Europe, the United States is committed to its NATO partners to augment its forward-deployed forces with six additional Army divisions, 60 additional tactical fighter squadrons, one Marine Expeditionary Brigade, and associated support elements. These forces would have to be delivered to the European theater within 10 days of a decision to mobilize. Further reinforcements would follow. Carrying out a deployment of this scale would require the movement of millions of tons of equipment and materiel, and hundreds of thousands of personnel, across the Atlantic Ocean by air and by sea. To minimize the burden on its mobility resources, the United States stores sizable amounts of equipment, supplies, and munitions in Europe. To cope with threats in other regions of the world, the United States maintains the capability to deploy about five Army divisions, two Marine Expeditionary Forces, associated air and naval forces, and support elements.

Based on these deployment requirements for Europe, the Defense Department has established program goals for the various categories of mobility. The goals include:

- For prepositioning — the storage of POMCUS (Prepositioning of Materiel Configured to Unit Sets) in Europe for six Army divisions, their associated support units, and some of the support units needed by the four forward-deployed U.S. divisions, and one Marine expeditionary brigade;
- For sealift — the capability to move one million tons of equipment in a single sailing; and
- For airlift — the ability to transport 66 million ton miles of cargo per day (MTM/D).

Airlift, in conjunction with prepositioning, would meet the initial movement requirements in a NATO reinforcement. By itself, airlift can move tactical air forces, light ground units, and a limited amount of high-priority unit equipment and munitions. When coupled with prepositioning of heavy materiel, it also provides the means for deploying heavy forces. Once the POMCUS program is complete, about 20 percent of the U.S. forces that would deploy to Europe in a major conflict would be supported by prepositioning and moved by airlift. Sealift would deliver more than 95 percent of the supplies and petroleum products needed to sustain these forces over time.

For deployments outside Europe, airlift would be used to move Air Force units, light ground units, and a limited number of heavier mechanized and armored units. Sealift would deploy and sustain larger forces. Such deployments would most likely occur in regions where port facilities are inadequate, necessitating the discharge of materiel under the "logistics over the shore" concept, which entails the use of crane ships, causeways, lighterage, and offshore petroleum discharge systems. In regions where the United States has security interests but does not maintain a large peacetime presence, a combination of afloat prepositioning and airlift would be used. Although storing equipment and supplies aboard ships is more expensive than using warehouses, it provides strategic flexibility that land-based prepositioning cannot. The three Marine Corps brigades that have equipment, munitions, and 30 days of supplies stored for them on maritime prepositioning ships (MPS) illustrate this point. If a contingency arose, the forces would be flown immediately to the conflict region, where they would link up with the ships carrying their combat equipment.

To enhance airlift capabilities, the United States is developing the new C-17 transport aircraft and maximizing the use of civilian cargo planes maintained in the Civil Reserve Air Fleet (CRAF). Today, as a result of improvements made over the past decade, the airlift fleet is capable of meeting about 75 percent of the wartime objective, delivering 48 million ton miles of cargo per day as against the 66 million goal. With the addition of the C-17, the fleet would be able to meet the full objective.

For sealift, among the possible single-theater scenarios, our objective is to provide enough capability to support a U.S. "go-it-alone" operation in the theater presenting the most demanding requirements. In a global war scenario, the objective is to meet with U.S. assets, sealift requirements in theaters where little or no allied assistance is available, and to draw as necessary on NATO shipping to satisfy European demands. The NATO Planning Board for Ocean Shipping (PBOS) maintains a Sealift Ships List comprising more than 400 dry cargo vessels that could quickly be made available for a European reinforcement. U.S. ships operated by the Military Sealift Command or attached to the Ready Reserve Force (RRF) would carry the initial large cargoes that would have to be transported to Europe by sea in a major deployment. The RRF, managed by the Maritime Administration, consists of ships maintained in reduced operating status that are militarily useful but no longer suited to profitable commercial trade. Because of the critical role these ships would play in a military deployment, funding to support the RRF's growth and readiness determines, to a large extent, the United States' ability to deploy forces early in a conflict.

Materiel needed to sustain deployed forces would be moved by ships requisitioned from the U.S. merchant marine or from commercial fleets under effective U.S. control, by allied ships (in a NATO reinforcement), and by multiple voyages of U.S. government-owned ships. Sustainability requirements could be met today with a blend of these resources, but currently our sealift capacity is about 20 percent short of our goal of one million short tons in a single lift, and future trends are not encouraging. The decline in U.S. and allied merchant marine fleets, due to international economic conditions beyond DoD's control, may threaten the future ability of the United States to sustain major military forces in combat theaters. Cooperation of government agencies and the Congress in implementing the National Sealift Policy announced by the Administration last October is important to maintaining the current forward defense strategy, and will become even more so if the Conventional Armed Forces in Europe (CFE) negotiations produce an agreement that leads to a substantial reduction in forward-deployed forces.

Strategic mobility is a capability of growing importance that will be greatly affected by future changes in the international situation and in the disposition of U.S. forces. The United States must maintain a steady investment in strategic mobility to meet the challenges of the future.

SPECIAL OPERATIONS FORCES

Over the coming decade, potential changes in global strategic relationships, combined with the potential for Third World conflict and related, multinational threats such as insurgency, terrorism, chemical biological weapons proliferation, and narcotics trafficking, will increase the complexity of U.S. defense challenges. Faced with broad new uncertainties, the U.S. military must be prepared with appropriate forces to meet a wide variety of threats. Special Operations Forces (SOF) provide flexible, innovative, and highly ready forces whose expertise is applicable to both conventional and unconventional warfighting environments. At the same time, SOF areas of specialization, such as civil affairs and psychological operations, as well as language skills and other region-specific capabilities, enable these forces to contribute to U.S. efforts to respond to and defeat low-intensity conflict.

The past decade has seen an intensive program to revitalize SOF capabilities. A continued focus on SOF readiness is essential to our ability to deter and defend against aggression in the years ahead.

Challenges of the 1990s

The existence of an effective nuclear deterrent and large and capable conventional forces has effectively prevented war between the superpowers for more than 40 years, but it has not deterred mid- and low-intensity conflict. Such conflict, largely the result of instability in the Third World, poses a real and immediate challenge to democracies, and threatens relationships and alliances that are vital to the coalition defense and open economies of the United States and its allies and friends.

Third World conflict is often centered on regional or ethnic problems that reflect the unique political, social, and economic conditions existing in Third World countries. These problems demand unconventional solutions and the application of different criteria for victory — notably, winning popular support rather than merely capturing and controlling territory.

The challenge in peacetime is to engage U.S. power effectively in response to the threat posed by low-intensity conflict. Deterring such activities is enhanced by maintaining credible specialized forces and demonstrating a willingness to use these forces as appropriate in dealing with threats to U.S. interests.

Terrorism is a threat of particular concern that requires a strategy which must embrace the entire range of options open to the United States — including, as a last resort, military options. Indeed, political and economic actions are all the more effective when a terrorist state or group understands clearly that behind these measures stands effective military power, capable of an appropriate and timely response. While military retaliation alone will not stop terrorism, it can be a very effective instrument by making the costs to terrorists, and the states that support them, far outweigh any gains they might seek.

Meeting the Challenges Through Peacetime Engagement

Peacetime engagement recognizes that low-intensity conflict typically seeks to undermine already weak governments and the peacetime conditions that are necessary for democratic institutions and processes to function and mature. An effective response to low-intensity conflict thus requires innovative counterstrategies that reinforce a climate for democracy by providing economic, humanitarian, and security assistance. At the same time, when low-intensity conflict threatens our basic security interests, peacetime engagement requires the use of national power, including military force when necessary, to defend these interests.

Special Operations Forces play a critical role in this regard. Characterized by flexible, small unit organizations with a wide range of specialized skills, they help strengthen emerging democracies by providing numerous forms of assistance: security, training, humanitarian, and military civic action; psychological action; civil affairs; and combined U.S., allied, and host-country operations. They are capable of assisting host countries in combating insurgencies, terrorism, and narcotics trafficking and related violence. Special Operations Forces also provide the capability to conduct complex and urgent contingency operations.

Special Operations Forces counteract violence primarily by providing training to the military forces of friendly Third World nations. In FY 1989, 21 SOF mobile training teams were

Joint Special Operations Commands Chart 17

dispatched to 12 countries around the world. SOF have been involved in such security assistance activities in Latin America since 1961. An example of security assistance efforts was the special operations training provided in El Salvador to help strengthen the emergence of democracy in the 1980s. Special Operations Forces also help train Drug Enforcement Administration teams and military and law enforcement agencies in countries that are sources of the drug trade. These forces are then better prepared to counter violence by drug warlords and attack the drug-trafficking infrastructure.

Other SOF functions, such as psychological operations and civil affairs, play a key role in bolstering the will of friendly forces to fight and eroding the will of aggressors. In Grenada, Special Operations Forces not only had an important combat role; they helped rebuild the democratic society once the people of Grenada regained their liberty. Special Operations Forces also executed missions crucial to the success of Operation Just Cause in Panama.

Conventional Deterrence

In conjunction with conventional forces, Special Operations Forces make a vital contribution to conventional deterrence as well. Should deterrence fail, these forces provide wartime economy-of-force capabilities to disrupt, delay, or divert enemy forces through direct action, strategic reconnaissance, or unconventional warfare. Special Operations Forces can conduct operations deep inside enemy territory to weaken and disrupt the enemy's rear area of operations. The close integration of SOF and conventional forces in both planning and employment remains an essential element of our deterrent capability.

Moving Toward the Future

As part of the overall U.S. force modernization program, the Department of Defense has three broad priorities for Special Operations Forces. First, personnel quality within SOF must be emphasized and maintained at a high level. SOF missions are complex, requiring extensive training and special expertise. SOF personnel must be dedicated to their career specialities, which entail long-term development through training and experience, including acquiring knowledge of the cultures, languages, and customs of foreign countries. Second, the usually urgent requirement for rapid projection of globally oriented Special Operations Forces, in both peacetime and war, demands that we stress mobility capabilities. In the case of SOF, moreover, the capability to infiltrate and exfiltrate forces successfully from hostile areas is critical. Third, we are emphasizing the organizational development of SOF through the consolidation of the U.S. Special Operations Command.

The global uncertainties we face in the decade ahead make it essential to maintain and strengthen U.S. Special Operations Forces and the innovative strategies needed for their effective employment. Successful peacetime engagement and conventional deterrence will require forces that can be used, as appropriate, to support the global democratic interests on which the United States depends: in training friends and allies to meet threats to democracy; in counterterrorist operations; in countering illegal drug trafficking; in executing other missions required to defend U.S. lives, interests, and security; and in maintaining a credible, effective deterrent that is valid across the spectrum of conflict. To meet these requirements, the United States must continue to give high priority to Special Operations Forces.

COUNTERNARCOTICS PROGRAMS

The President's National Drug Control Strategy, announced in September 1989, represents a comprehensive, multiagency effort to attack the drug problem which threatens our way of life. One of its principal objectives is to reduce, and if possible eliminate, the flow of illegal narcotic substances to the United States. Detecting and monitoring the production, trafficking, and use of illegal drugs is a high-priority national security mission of the Department of Defense.

Illegal drug enterprises, and their effects, constitute a direct threat to the nation, attacking and undermining the core values of our society. The Department will work on the drug problem at every level — at the source of illegal drugs, in the delivery pipeline, in support of federal, state, and local law enforcement agencies, and in reducing demand for illegal drugs among military and civilian personnel within DoD.

The Evolution of DoD Anti-Drug Efforts

The Department has in the past few years provided significant support to U.S. drug law enforcement agencies, including personnel, training, equipment loans and transfers, and operational support. In addition to assisting U.S. agencies, DoD supports other countries' anti-drug efforts. This is accomplished through activities such as training in interdiction and eradication operations. The Department has trained more than 250 U.S. government personnel and at least 500 foreign personnel in skills such as operational planning, logistics, and weapons handling, in addition to providing training in jungle survival and individual combat techniques, and foreign languages. The Department has provided mobile training teams to Colombia, Bolivia, Peru, Ecuador, Costa Rica, the Bahamas, and to other drug source or transit countries. The Department has loaned hundreds of millions of dollars worth of equipment to various drug law enforcement agencies, including Navy E-2C aircraft; Blackhawk helicopters; command, control, and communications equipment; and M-16 rifles. In FY 1988, the Department expedited the transfer of 26 surplus UH-1H helicopters from the Army to the Department of State for use outside the country, and in FY 1989 it offered to transfer 15 P-3A aircraft to law enforcement agencies. U.S. active and reserve forces have provided extensive surveillance support along the nation's border and coastal areas. In FY 1989 alone, more than 39,000 flying hours and over 2,000 ship days supported law enforcement efforts. The Department also made land available to the Department of Justice for development of the Drug Law Enforcement Training Academy. But the Department must do more and is committed to doing much more.

The 1989 Defense Authorization Act initiated a new era in DoD support for law enforcement agencies. The act gave the Department significant new responsibilities, including: lead agency responsibility for detecting and monitoring aerial and maritime drug smuggling across U.S. borders; planning responsibility for a communications network that would support the integration of U.S. command, control, and communications and technical intelligence assets dedicated to drug interdiction; and an enhanced role for the National Guard, under the direction of state governors, in supporting state drug-interdiction and other enforcement efforts.

Under the President's National Drug Control Strategy and the Secretary of Defense's September 1989 DoD counternarcotics guidance, the Defense Department — in conjunction with the Department of State and U.S. law enforcement agencies — is helping to lead the attack on the supply of illegal drugs from abroad. DoD's efforts will complement those of other U.S. agencies and foreign countries.

On September 18, 1989, the day he issued counternarcotics guidance to the Department, the Secretary of Defense sent messages to the commanders-in-chief (CINCs) of the unified and specified commands informing them that reduction of the flow of drugs into the United States is a high-priority national security mission and directing them to elevate this mission's priority in their areas of responsibility. The counternarcotics mission will have particular priority in the Atlantic, Forces, Pacific, Southern, and North American Air Defense Commands. The Department will work to advance the national objective of reducing the flow of illegal drugs into the United States through the effective application of available resources consistent with our national values and legal framework.

An effective attack on the flow of illegal drugs requires action at every level of the flow: (1) in the countries that are sources of drugs, (2) in the

drug pipelines from source countries to the United States, and (3) in distribution networks in the United States. U.S. military forces can assist in the attack on the supply of drugs in each of these phases.

The production of illegal drugs is a complex criminal enterprise. It requires illicit labor, capital, entrepreneurship, and a substantial infrastructure to grow the plants that are the raw materials and to refine and manufacture the drugs. Reducing the availability of these elements of production in the countries from which illegal drugs originate would reduce the flow of drugs to the United States.

The Department of Defense can make an effective attack on the supply of drugs within source countries by providing operational support to host-country forces and cooperating with those forces in preventing drug exports. Pursuant to the National Drug Control Strategy, near-term efforts will focus on the Andean nations from which most cocaine entering the United States originates. Key to the success of U.S. efforts directed at the supply of illegal drugs — and in particular, to the success of U.S. counternarcotics operations — will be the cooperation of the foreign countries involved.

A sustained multinational effort is essential to stemming the flow of illegal drugs from abroad. Drug-producing criminal organizations control what amounts to private armies that challenge the law enforcement and military forces of their home countries. Often such organizations are intertwined with insurgent forces that directly challenge the governments of those countries. Defense Department assistance reinforces the abilities of host-country governments to combat drug-producing organizations. Security assistance can help such governments protect themselves from criminal drug enterprises and drug-related insurgencies and enforce their laws against drug producers and traffickers. It will help to strengthen the economies of these nations and keep their labor, capital, and entrepreneurship channeled toward useful production and away from drug manufacturing. Success in other efforts to attack the supply of illegal drugs in drug-producing countries will depend over the long run on the establishment of healthy economies and the restoration of governmental authority. To assist in implementing this element of the national drug control strategy, DoD will execute security assistance programs in accordance with presidential instructions and applicable laws, and in coordination with the Department of State and other federal agencies.

The Department also is prepared to provide counternarcotics operational support to the forces of cooperating countries. U.S. armed forces can provide foreign forces with substantial assistance in training, reconnaissance, command and control, planning, logistics, medical support, and civil action. Such military support would be designed to increase the effectiveness of foreign forces' efforts to destroy drug-processing laboratories, disrupt drug-producing enterprises, and control the land, river, and air routes by which illegal drugs exit their countries.

In addition to these forms of assistance, the United States can help law enforcement agencies in foreign countries combat the export of drugs. The Defense Department can contribute to that effort by providing improved intelligence collection capabilities, which will benefit not only source-country efforts but also U.S. actions in the second line of defense — the attack on drugs in transit to the United States.

The Department will assist in stopping the delivery of illegal drugs on their way to the United States and at U.S. borders and ports of entry. Deploying appropriate elements of the armed forces with the mission of helping to stem the flow of drugs should, over time, reduce the drug flow into our nation. At a minimum, these efforts will complicate the challenge of getting illegal drugs into the United States, thereby increasing the costs and risks of drug smuggling. As a high priority, U.S. military counternarcotics deployments will emphasize combating the flow of drugs across the Caribbean Sea and across the southern border of the United States.

A key element of the DoD counternarcotics effort is the development of effective detection and monitoring capabilities. The goal of the detection and monitoring mission is to identify aerial and maritime drug-smuggling and thereby help law enforcement personnel apprehend drug traffickers and their illicit cargo. This is a significant challenge, requiring the establishment of regional commands, intelligence apparatuses, and integrated command, control, and communications networks. The primary surveillance assets employed in aerial and maritime counternarcotics detection and monitoring include aerostats, coastal radars, airborne

early warning and reconnaissance aircraft, ground-based radars, naval combatants, and air defense fighter forces.

Intelligence collection assets are concentrating on the exploitation of targets such as international drug production, processing facilities, transshipment points, and associated air and maritime launching areas in support of detection and monitoring.

The success of counternarcotics interdiction and deterrence efforts will depend greatly upon the ability of the Department of Defense and law enforcement agencies to marshal effectively the myriad command, control, communications, and intelligence resources they possess into an integrated counternarcotics network. The Department of Defense is prepared, with the cooperation of U.S. law enforcement agencies, to undertake this task. The Department is prepared also to develop and employ the capability to coordinate tactical control of federal detection and monitoring assets actively dedicated to counternarcotics operations outside of and along the borders of the United States.

The third line of attack against the production, trafficking, and use of illegal drugs focuses on the United States itself. The role of U.S. armed forces in this regard includes actions to reduce both the supply of illegal drugs and the demand for those drugs.

Within our borders, the Department will assist federal, state, and local law enforcement agencies and National Guard units with training, reconnaissance, command and control, planning, and logistics. In appropriate cases, armed forces personnel and equipment will be detailed directly to law enforcement agencies to assist in the fight against drugs. The Department of Defense will ensure that its administrative and command structures permit rapid and effective responses to requests for counternarcotics assistance from law enforcement agencies and the National Guard.

The Department also bears an important responsibility for reducing the use of illegal drugs by its military and civilian personnel. We have already met with substantial success in this regard, achieving since 1980 an 82 percent reduction in drug abuse in the military through aggressive education and drug-testing programs. The Department will step up its efforts to combat illegal drug use by its civilian work force and will make available to other large organizations its experience in reducing the demand for illegal drugs. The Department also will emphasize drug abuse awareness and prevention in the military school system, which educates over 190,000 of America's children.

The President's National Drug Control Strategy represents a multinational, multiagency approach to combating the drug problem. The Department of Defense plays a crucial role in defending the United States from the scourge of illegal drugs. It will employ the resources at its command to fight the production, trafficking, and use of illegal drugs as an important part of the national effort to secure a drug-free America.

RESEARCH AND DEVELOPMENT

Research and Development (R&D) programs are vitally important to our national defense. They provide the key to the modernization of U.S. forces, and they help ensure that the United States maintains a qualitative advantage over potential adversaries. At the same time, these systems produce economic benefits for the country and enable the United States to attain competitive advantages in weapon development and production costs.

The decade of the 1990s will pose ever-increasing challenges to U.S. R&D programs and products. The Soviets have greatly increased their technological capabilities through vast expenditures on research and development, and through purchasing or otherwise acquiring advanced technology from the West. The qualitative improvements this has brought to Soviet forces are evident in numerous weapon systems, from quieter submarines to high-performance fighters with all-weather and "look-down shoot-down" capabilities.

These challenges have arisen at a time when the U.S. R&D base has been affected by a downward trend in the number of firms and organizations capable of maintaining technological leads in fields with important military applications. The United States also has increased its reliance on other countries for critical materials and products, increasing the risk that these resources may not be available when the United States needs them. To meet these challenges in the 1990s, the Department of Defense will continue to improve and streamline all aspects of the R&D process, while maintaining a strong, cooperative relationship with American industry.

The Science and Technology (S&T) Program

U.S. defense policy has traditionally called for maintaining qualitatively superior forces to offset the disadvantage of numerally superior opposing forces. This concept requires the maintenance of a technology lead over potential adversaries and the industrial capacity to translate evolving technologies into useful military applications. The S&T Program, consisting of basic research, exploratory development, and advanced technology development efforts, is providing the United States with technical options that can be used to develop effective military strategies and the equipment with which to implement them.

A strong research program accomplished by a government laboratory-industry-university team ensures that the United States will be adept at incorporating scientific advances into military systems and at countering any technological surprises that might occur. Accordingly, DoD research programs exploit new breakthroughs in the fields of mathematics, computer science, chemistry, physics, electronics, geophysics, meteorology, oceanography, biology, medicine, and related disciplines. These efforts are focused on the development of advanced technologies with potentially significant military applications.

Technological advantage is a perishable commodity, and it must be constantly nurtured and protected because of continuing advances by our competitors and illegal transfers. The United States can maintain its technological lead through investments in critical technologies such as microelectronics, software, directed energy, robotics, materials, and propulsion. These technologies form the core of future capabilities in antisubmarine, electronic, and strategic warfare; low-intensity conflict; special operations; and other military missions.

Electronics and electronics-related developments are a major part of the S&T program. Microelectronic devices of less than a micron in size are being developed. Radiation-hardened gallium arsenide integrated circuits will give increased levels of protection against nuclear effects at higher computer operating speeds.

The Defense Advanced Research Projects Agency (DARPA)

DARPA is the Department of Defense's central research organization chartered with investigating and developing new and imaginative technologies of potentially significant military utility. DARPA's programs focus on basic research, technology development, and both technology and system-concept demonstrations of revolutionary approaches.

Under the Strategic Computing Program, DARPA is developing supercomputer technologies aimed at meeting DoD's needs for high-performance processing for antisubmarine warfare, battle management, intelligence analysis, aerodynamic design, and "smart weapons" applications.

DARPA also is devoting considerable attention to the development of advanced software technologies, which are increasingly central to the design and operation of weapon systems. The Software Technology for Adaptable and Reliable Systems Program is an industry-based effort under which advanced tools are being developed for software specification and design; rapid prototyping, production, and refinement; testing and documentation; and maintenance. These information processing technologies will be applied to the development of advanced information systems for defense. Systems development will also be improved through a new generation of very low cost man-in-the-loop weapon system simulators connected to thousands of other such simulators at dozens of sites using a low cost communications network. This will provide high-payoff training to enhance readiness of active duty and reserve forces at low cost, and allow weapon systems concept evaluation for improved procurement.

The DARPA Advanced Space Technology Program is defining, developing, and demonstrating advanced high-payoff technologies that could improve space system support for military operations while helping to ensure the continued availability of space assets in wartime. The program is aimed at fulfilling three major goals: enhancing military access to space and reducing the cost of space systems; decreasing the vulnerabilities of space systems to natural phenomena and hostile action; and improving the utility of space systems, especially for tactical forces.

Test and Evaluation (T&E)

Testing remains a critical and essential element of the weapons acquisition process. The entire T&E community is dedicated to providing accurate and sufficient test data in support of acquisition decisions. As part of that effort, increased emphasis is being placed on acquiring needed improvements in test ranges, targets, and instrumentation. Meanwhile, the acquisition community is actively committed to T&E planning, including live-fire testing. Future efforts will seek to inject innovative methods and techniques into these processes as a means of minimizing testing time and costs, while increasing the objectivity and timeliness of the system evaluations that support the acquisition process.

The Defense Nuclear Agency (DNA)

DNA is chartered with conducting research and experiments to quantify the effectiveness of U.S. nuclear weapons and to ensure the survivability of U.S. military forces in a nuclear environment. The survivability of each remaining asset becomes more important with each reduction in the number of weapons in the U.S. arsenal. Not only must survivability be addressed, but system effectiveness against an increasingly hardened threat must receive attention on a priority basis.

DNA conducts the research necessary to develop and evaluate technologies, design concepts, and techniques that could reduce the vulnerability of U.S. forces and weapons to radiation, thermal, and blast damage. This applies to the full spectrum of mission-critical elements, from vulnerable human operators to relatively invulnerable force structure elements such as reentry vehicles and Army tanks. Conversely, DNA must conduct the research and testing necessary to ensure that U.S. strategic nuclear capabilities are maintained against a target base that is becoming increasingly harder and more sophisticated. Strategic nuclear weapon systems and critical theater tactical weapons must be capable of surviving and operating in a nuclear environment if they are to provide meaningful military response options.

DNA fulfills a critical role in providing data crucial to the developers and potential users of major weapon systems. Its role in addressing the full spectrum of nuclear-related aspects of the defense mission is becoming increasingly important as agreements are reached that reduce the number of weapons required to maintain our strategic nuclear deterrent. DNA is responsible for the work necessary to ensure both that U.S. weapons and forces could survive in a nuclear environment and that they are effective in accomplishing their missions.

The Defense Department accomplished a great deal in the field of research and development during the past decade. The 1990s pose different challenges. The explosive growth in new technologies will make the threat even more complex and potentially more dangerous. We can overcome these challenges with deployment of effective weapon systems, provided that well-planned and energetic R&D programs lay the foundation now for progress in the coming decade and the 21st century.

Part V
Statutory Reports

REPORT OF THE SECRETARY OF THE ARMY

The Army's accomplishments in operational and management areas were significant during the past year. We conducted a variety of planned and contingency operations around the world in support of U.S. national military strategy. We also made important strides in improving the efficiency and effectiveness of our use of the resources entrusted to us.

Operational Accomplishments

In addition to attaining record levels of combat readiness throughout the Total Army, in the United States as well as abroad, we participated in a wide variety of successful operations that spanned the range of our roles and missions. The most significant of these was our participation in Operation Just Cause in Panama. This was a very successful demonstration of the Army's rapid response capabilities. Just Cause was the most complex contingency deployment and employment of U.S. forces since World War II; yet soldiers were on the ground in Panama within 60 hours of the Presidential decision to deploy, with a total of over 12,000 introduced within the following 12 hours. The operation demonstrated the Army's ability to generate the appropriate combination of forces for any contingency. Troops came from a number of different units — both forward deployed and contingency forces — and consisted of a balanced mix of heavy, light, and special operations forces. The complexity of the operation — airborne, air assault, and day and night combat — was a real test of unit leadership and training, and its success was a tribute to the courage and sense of duty of our soldiers.

In numerous other planned and emergency deployment exercises, Army units trained to maintain this capability to respond to any contingency with a mix of forces. We also participated in other operations, including support to international peacekeeping efforts, operations to protect shipping in the Persian Gulf, disaster relief, and illicit drug traffic interdiction. Additionally, we played a major role in implementing the INF Treaty. We began the elimination of Pershing missiles at the three destruction sites run by the Army, and Army personnel participated in inspections of Soviet destruction activities.

The most important element contributing to our operational accomplishments was the quality of our soldiers and civilians. Over 60 percent of the soldiers entering the Army last year scored in the upper half of standardized tests, and over 90 percent were high school graduates. Moreover, the Army was successful at retaining quality soldiers in record numbers, surpassing reenlistment goals by over 10 percent. Our civilian work force was equally successful in attracting and retaining the highest quality men and women. Quality people give our organizations a level of effectiveness and versatility that is crucial to the success of our relatively small force in accomplishing its worldwide roles and mission.

In force structure, modernization, and training the Army also made important strides that directly enhanced our ability to meet U.S. defense requirements. To improve Army support throughout the Pacific theater, we completed plans to convert our Western Command in Hawaii to the U.S. Army Pacific Command. We activated five aviation attack group headquarters and four attack helicopter battalions in the Army National Guard, two attack helicopter battalions in the U.S. Army Reserve, and the remaining units of the 10th Mountain Division. To meet required reductions in Active force end strength while retaining necessary combat capabilities, we deactivated a brigade of the 4th Infantry Division (Mech) and designated an Army National Guard brigade to replace it in the division. The Army continued fielding the most modern systems to those units in the active and reserve components that need them first in combat, to include two additional Apache attack helicopter battalions in Europe. We also added modernization master plans for tactical wheeled vehicles and armor-antiarmor systems to the family of plans that guide our current modernization efforts and promulgated the Army Technology Base Master Plan to guide our R&D in shaping the Army of the future.

Army training — the cornerstone of readiness because it melds people, equipment, units, and leaders into effective combat teams in the most realistic possible field environments — achieved a significant level of success in preparing our soldiers, civilians, and leaders for their wartime and peacetime missions. We opened the Com-

bat Maneuver Training Center in Germany, expanded the National Training Center in California, continued to develop the Joint Readiness Training Center in Arkansas, and emphasized worldwide training exercises that integrated appropriate elements of our heavy, light, and special operations forces with sister services and allies. Through the Reserve Components Training Strategy, we have formalized our approach to training the reserve components. The Reserve Components Training Development Action Plan, designed to improve soldier, leader, and unit training, is in the process of being implemented. The quality of our people and the effectiveness of our training were evident in the victory of Army teams and individual aviators in the 1989 World Helicopter Championships. We have also been successful in training safely. Despite the increasing complexity of Army weapons and equipment, there has been an encouraging reduction in overall accident trends and fatalities. We are institutionalizing civilian training through the Army Civilian Training, Education, and Development System that sets training standards through progressive and sequential training plans for over 98,000 civilians in 24 career fields.

The effectiveness of the present-day Army, and its legacy for the future, are functions of the quality of its military and civilian leaders. Leader development in the Army — which includes formal education and training, progressive experiences in organizations, and self-development opportunities — made significant advances this past year. We completed in-depth studies and began implementation of a broad range of enhancements to our officer and NCO leader development systems. These improvements included establishing a Leader Development Support System to oversee and coordinate leader development activities throughout the Total Army and upgrading the coverage of Air-Land Battle doctrine in our precommand courses. Similarly, we continued the expansion of the Army Management Staff College, which is an essential component of the Army's Civilian Training, Education, and Development System.

Management Accomplishments

In all management areas the Army made concerted efforts in the past year to improve its operations. The actions we took resulted in better use of available resources, including people, time, facilities, materials, and funds.

The Army refined its three-tiered acquisition organization, learning from its second full year of streamlined operations under the new Army Acquisition Executive — Program Executive Officer (PEO) — Project Manager structure. This experience was invaluable in allowing us to define more precisely our PEO requirements and, as a result, we reduced the number of PEOs from 22 to 13.

Personnel management also advanced. We made full use of formal institutions including the senior service colleges, the Defense Systems Management College, the Army Logistics Management College, and the Army Management Staff College mentioned above to expand the professional and leadership competence of civilian and military managers. We have begun testing the integration of civilians into the Army Personnel Proponent System, which will allow us to manage their careers more effectively while progressively developing their knowledge and skills.

In the financial management area, our automation enhancements significantly improved pay services to soldiers and civilians. We also achieved very favorable results in a pilot program to improve efficiency by giving installation commanders control of their civilian personnel budgets and the authority for position classification and, consequently, will expand the program in the future.

The Army has taken several initiatives to expand access to our direct health care system while reducing reliance on CHAMPUS to control costs. One particularly notable program provides CHAMPUS funds to selected medical treatment facility commanders who exercise responsibility for all care in their geographical area whether in their facility or in the civilian community.

The Army streamlined some of its production and sustainment functions during the past year. Our commercial activities initiative produced savings in terms of cost avoidance and reduced civilian and military space requirements. We began the implementation of Total Quality Management principles that we expect to yield significant enhancements in quality while reducing resource requirements and management time.

The Army made significant progress in the installation management area. Base realignment and closure planning is under way to ensure prompt and efficient implementation of approved recom-

mendations on the more than 120 Army installations affected. With our Army Communities of Excellence program, we have helped installation commanders find low-cost, self-help projects which provide timely and worthwhile improvements in living and working conditions. Excellent communities play a vital role not only in mission accomplishment but also in retention of the quality soldiers and civilians that are the hallmark of today's Army. We remain committed to providing our soldiers and families a quality of life equal to that enjoyed by those they defend.

Emphasis on environmental improvement and conservation remains a major Army effort. We completed contamination cleanup at 20 Army sites and made significant progress at an additional 350. Army leaders created aggressive compliance and environmental awareness at all levels of command, as evidenced by the Army's receipt of this year's Secretary of Defense Environmental Quality Award.

We realize that embedding excellence through efficiency and the execution of effective programs is a continuing process. In both operational and management areas we are proud of our accomplishments this past year. We will strive to improve on these accomplishments in the coming years.

M. P. W. Stone

Michael P. W. Stone
Secretary of the Army

REPORT OF THE SECRETARY OF THE NAVY

The Department of the Navy procures and maintains the forces needed to fulfill its missions of strategic deterrence, power projection, sea control, and strategic lift. In day-to-day operations, globally deployed units of the Navy and Marine Corps confer upon the United States a unique ability to affect world events in support of our national objectives of peace and freedom.

U.S. and Soviet navies last year hosted a meeting between President George Bush and General Secretary Mikhail Gorbachev in the Mediterranean Sea. Fostering improved East-West relations, the two navies also concluded an historic exchange of port visits. Three Soviet ships, including the Slava-class cruiser Marshal Ustinov, visited Norfolk, Virginia in July. In August, USS Thomas S. Gates (CG 51) and USS Kauffman (FFG 59) made a port call in Sevastopol. In another historic exchange, the Chinese training ship Zheng He visited Hawaii in April. During a reciprocal visit in May, even as events in Beijing unfolded, USS Blue Ridge (LCC 19), USS Sterett (CG 31), and USS Rodney M. Davis (FFG 60) were welcomed warmly in Shanghai, in the first visit to that city by U.S. Navy ships since 1946.

Fleet commanders last year expanded their drug interdiction efforts, with more than 2,200 ship steaming days and 9,000 aircraft flight hours dedicated to surveillance and tracking of drug traffic long before it can reach U.S. shores. In October, these efforts resulted in USS Blakely's (FF 1072) participation in the 110th combined Navy-Coast Guard drug seizure. Marines initiated anti-drug support for civilian law enforcement agencies in the southwest United States. On the opposite side of the globe, Navy ships of the Joint Task Force Middle East continue to monitor U.S. Flag vessels in the Persian Gulf shipping lanes, acting as a force for stability in that area, now the scene of an uncertain peace. Marine forces completed their Persian Gulf Mobile Seabase operations. Aircraft carrier battle groups and Marine Expeditionary Units responded to several other pressing contingencies in the past year, including the hostage crisis in Lebanon and events in Panama. U.S. ballistic missile submarines, the most cost-effective and survivable leg of the strategic triad, conducted more than 100 deterrent patrols.

Sailors and Marines aided in the recovery efforts following the San Francisco earthquake, and assisted the victims of Hurricane Hugo in Puerto Rico, the U.S. Virgin Islands, and South Carolina. Navy amphibious ships with embarked Marines and oil recovery craft assisted in cleanup operations in Alaskan waters following a tanker accident in Prince William Sound. Also in the past year, Navy ships rescued more than 250 refugees in the South China Sea.

Despite the constant tempo of operations worldwide, funding for Navy and Marine Corps programs remains below that for any fiscal year since 1984. Budget austerity has resulted in the termination of several programs, the transfer of several ships to the Naval Reserve Force, and in the early retirement of several older ships, such as USS Coral Sea (CV 43), to be decommissioned in April 1990. The Marine Corps likewise has cut three infantry battalions, and transferred several active support units to the reserves. Navy battle forces overall will continue to decline in number, from a strength of 567 ships in FY 1989 to a fleet of 556 in FY 1990.

In FY 1989, 21 ships were added to the fleet, 17 ships were retired, and 4 ships transferred to the Naval Reserve. New commissionings included USS Wasp (LHD 1), the first of a new class of amphibious assault ships, two Trident ballistic missile submarines, two Aegis guided missile cruisers, two Los Angeles-class attack submarines, a Whidbey Island-class LSD and two mine countermeasure ships. With funds appropriated for FY 1989 the Department of the Navy initiated procurement for 207 aircraft and 22 ships. Funding for FY 1990 will support a buy of 140 aircraft and 17 ships.

The Department of the Navy's major programs include development of the new Seawolf class of nuclear-powered attack submarines, the Trident D-5 submarine-launched ballistic missile, and the new class of Aegis-equipped destroyers. The lead ship of this class, Arleigh Burke (DDG-51), was launched in September 1989. The Department of the Navy is the lead agency for several key developmental programs with multi-service applications, including the new stealth A-12 attack aircraft, and the Long-Range Conventional Standoff Weapon. Marine Corps developmental programs

are sharpening the Corps' ability to sustain rapid, "over the horizon" expeditionary operations.

The Department of the Navy's highest budget priority is sustaining the high quality of our sailors and marines. Only through their efforts can our advanced technology, training, tactics, and strategy succeed. The many factors affecting their quality of life are at the center of our attention as we accommodate successive decrements in overall funding. Foremost, the Department of the Navy stands by its commitment to enhance the compensation of its personnel and to adhere to realistic limitations on the operating tempo of our deployed ships, squadrons, and Fleet Marine Forces. We have supported essential upgrades in government-provided family housing and child care, and endorse measures aimed at reducing the out-of-pocket expenses incurred by our members living in the private sector. Navy medical facilities were placed last year under the authority of base and station commanders in order to enhance their responsiveness to the fleet's health care needs.

Our ability to support U.S. national security objectives in the future rests on today's program of research and development. The Department of the Navy s R&D efforts focus on technologies with the greatest potential for improving combat capability in each warfare area. The Navy's top warfare priority is antisubmarine warfare, supported by several programs, including development of the new Seawolf-class attack submarine, the new P-7 antisubmarine patrol aircraft, shipboard sonar upgrades, and a concentrated program of research. Advances in airframe materials and electronics will provide opportunities in stealth, performance, and cost reduction of missiles and aircraft. We are striving to bring new ideas for ship hull forms, propulsion, and integrated weapons systems out of the labs and into the fleet, and to manage that process in a cost-effective manner.

The Department of the Navy has adopted cost saving management techniques such as Total Quality Management and competition wherever practicable. FY 1989 marked the first year in recent history that all shipbuilding contracts were awarded competitively. For the seventh consecutive year, the Navy has increased the percentage of competitive awards both in terms of dollars and contract actions. About 59 percent of the dollars obligated and more than 93 percent of the Department's contract actions were awarded competitively.

The Department of the Navy has fulfilled requirements of the Defense Management Review by assigning sole responsibility for research, development, and acquisition functions to a newly established Assistant Secretary of the Navy, ASN(RD&A). Program Executive Officers and system commands will report directly to this new acquisition executive, providing for streamlined oversight of the acquisition process. We are establishing a dedicated corps of officer and civilian specialists in acquisition management. Matters pertaining to military requirements and to test and evaluation have been delegated to the Chief of Naval Operations and the Commandant of the Marine Corps. The importance of environmental issues is recognized in the establishment of a new Assistant Secretary of the Navy (Installations and Environment), and in the Department of the Navy's program to reduce hazardous waste generation by 50 percent by the end of 1992.

H. Lawrence Garrett, III
Secretary of the Navy

REPORT OF THE SECRETARY OF THE AIR FORCE

The Air Force stands on the threshold of the 1990s organized, trained, and equipped to support national security objectives while responding to the challenges of significant fiscal constraints and geopolitical shifts. The Air Force has pursued a balanced approach to underwriting national defense, emphasizing high-quality people and decentralized management, leveraging its investments through readiness, upgrades, and modernization. In doing so, the Air Force has prepared for the future while meeting its vital day-to-day objectives.

Recruiting, retaining, and motivating high-quality people, providing the needed training and professional skills, ensuring their adequate compensation, and protecting their health and safety has been our highest priority. Our recruiting and retention efforts met with significant success — for example, 99 percent of our recruits were high school graduates — and innovative programs were targeted at the retention of important specialties, such as pilots and physicians. More remains to be done. Our safety efforts in FY 89 resulted in the best ground safety record in history, and the third best flying safety record.

The Air Force participated fully in the review process leading to the Defense Management Report to the President (DMR) and is aggressively streamlining our management processes. Taking on the challenge of creating our own real growth, we are dedicated to eliminating non-value added activities Air Force-wide. Over 400 ideas have been generated by Air Force people, with over 40 selected for the first phase of DMR implementation — including a major effort to streamline Air Force Logistics Command, Air Force Systems Command, and Air Force Communications Command. Improving the system acquisition process has been a major focus of Air Force DMR implementation. Improving our Program Management Directives and developing the complementary Acquisition Program Baseline and Acquisition Information System represent a three-pillared management initiative to streamline authority and responsibility while preserving maximum flexibility for program execution.

The Air Force maintains its combat capability in the face of budget constraints by focusing on readiness, modifications to existing systems, and force modernization. Air Force readiness has steadily improved over the last nine years and stabilized at FY 87-FY 88 levels — an all-time high. To maintain that vital readiness, we have accepted force reductions of 32 squadrons and more than 31,000 people over the last five years, deferred facility improvements, and reduced the modernization pace. Although decreases in sustainability investment are a reality, progress in reducing sustainment costs has allowed us to hold the line.

Strategic forces have been a high priority as nuclear deterrence remains the cornerstone of our national military strategy. The revolutionary B-2 has successfully completed initial test flights. The B-1 continues to mature and meet its strategic commitments, and the Peacekeeper achieved full operational capability in Minuteman silos after the most successful ICBM developmental test program in history. Research and development on the Advanced Cruise Missile, Small ICBM, and Rail Garrison basing for Peacekeeper are progressing well.

Modernizing tactical airpower is also a high priority. Investments in system modifications and upgrades will have long-term payoffs in improved combat power. The fielding of the LANTIRN on the F-15E and the Block 40 F-16s will provide significant night, adverse weather capability. The unveiling of the F-117A reflects technology development that will achieve orders of magnitude improvements in combat capability in the Advanced Tactical Fighter, now in research and development.

Our investments in power-projection forces enhance our flexibility and ability to support forward defense. The B-52 added another dimension, acquiring a precision standoff conventional capability. We accepted delivery of the last C-5B, completing that program ahead of schedule and under cost, and expanded the Civil Reserve Air Fleet. Delivery of the last KC-10 and continued re-engining of the KC-135 enhanced our global reach. And assembly began on the first of the next generation of airlifters, the C-17.

The Air Force has emphasized integrating space into every mission area, establishing an Assistant Secretary of the Air Force (Space) to manage space activities and integrate space with terrestrial forces. Our mixed-fleet launch strategy provided versatile,

robust, assured access to space with several expendable launch vehicle programs. We successfully launched the Titan IV and the Delta II, which carried the first operational Global Positioning System satellites into space.

Closer to earth, the Air Force also recognized the increasing importance of special operations, establishing two new special operations wings — one in Europe and one in the Pacific.

The Air Force launched new activities in support of the President's national strategy to combat the threat to our national security posed by narcotics. Air Force people, aircraft, radars, and equipment are working with law enforcement agencies and our allies to slow the flow of drugs.

While underwriting deterrence with increased capabilities, the Air Force responded to contingencies and disasters around the world. We deployed forces to Panama to protect Americans there and lifted UN peacekeeping forces to Namibia. We also provided humanitarian airlift of approximately 7,500 tons of badly needed supplies and equipment following earthquakes and hurricanes — ranging from the Caribbean to Armenia. And while, tragically, the most publicized search and rescue mission of the year — that for Congressman Mickey Leland and his party — found them not alive, Air Force Rescue and aeromedical evacuation forces recorded hundreds of saves in FY 1989.

The 1990s will be challenging. International dynamics and budgetary constraints will continue to apply pressure. As they do, the Air Force will assume an even more important role in national defense owing to the inherent flexibility, global reach, and lethality of airpower.

Donald B. Rice
Secretary of the Air Force

REPORT OF THE CHAIRMAN OF THE RESERVE FORCES POLICY BOARD

It is an honor for me to serve as Chairman of the Reserve Forces Policy Board (Board) which, acting through the Assistant Secretary of Defense for Reserve Affairs, is by statute, the "principal policy adviser to the Secretary of Defense on matters relating to the reserve components" (10 USC 175(c)). In this position I follow my friend Will Hill Tankersley. He is a distinguished businessman, soldier and former Department of Defense official. Under his able leadership, the Board has made many significant contributions to our National Security.

The importance of our nation's reserve components cannot be over emphasized. My service as Secretary of the Army for over eight and one-half years, combined with my earlier service in the National Guard and Army Reserve, have convinced me that in today's world environment the importance of our reserve components will increase. This is especially true in view of the budget constraints with which we are faced.

The Total Force Policy was promulgated in 1973. As implemented, it has brought great change and success to the reserve components. The reserve components today are full partners with the active components. There are no major operational plans that could be executed without the reserve components. The challenges of low intensity conflict around the world will require additional focus on the capabilities of reserve component special operations units and personnel. The Selected Reserve makes up 35 percent of the Total Force. This ranges from a high of over 50 percent in the Army to 18 percent in the Marine Corps. Today's National Guard and Reserve units are composed of higher quality personnel, are being more effectively trained, and have more modern equipment. They are better prepared than ever to perform their vital missions. The support of the American people, the Administration, the Congress and the services has made this possible. Challenges still exist in the areas of personnel, training, equipment, and facilities which are essential to achieving required readiness and they will be detailed in the Board's upcoming report.

Recruiting and retention efforts of the reserve components have been successful in attracting and keeping high-quality individuals. The Montgomery GI Bill and various bonus programs have contributed greatly to this effort. Recruiting is likely to become more difficult due to a shrinking pool of young men eligible for military service. The increasing number of women serving in the reserve components is helping to alleviate this problem. Since 1981, the number of women in the Selected Reserve has increased by 75 percent. Women now comprise about 12 percent of the Selected Reserve and 13 percent of the Individual Ready Reserve.

The most significant training detractor for reserve component personnel is time available to train. Sufficient full-time support personnel and automation should be provided to perform many of the peacetime administrative functions now being handled by drilling members of the National Guard and Reserve. This would allow them to devote more of their time to training.

In addition to paid drills, most reserve forces' leaders, commissioned and noncommissioned, spend a tremendous amount of time working at their units on administration, logistics, and training. In recent years, administration and readiness requirements have increased enormously. National Guard and Reserve leaders — who usually have demanding careers in civilian life and young families — are feeling considerable pressure from employers and families to get out of the reserve components. If they must choose between their civilian vocation and their families or their military avocation, the choice they will make is very certain.

We cannot afford to lose these National Guard and Reserve leaders who are essential if the Total Force is to be effective. Therefore, it is critical that unreasonable demands on their time be reduced. This can be achieved either by eliminating some of the requirements, which may be impossible if units are to be in a high state of readiness, or by providing sufficient full-time support personnel and automation to fulfill the requirements.

Policies pertaining to appointment, retention, promotion, and retirement of reserve component officers are addressed in the Reserve Officer Personnel Management Act. Passage of this legislation is important.

Overseas Deployment Training (ODT), and training with wartime gaining commands, provides

some of the most effective training available for the reserve components. Preparation for and execution of ODT closely parallels actual mobilization and deployment. Civic action and technical assistance to friendly nations, in conjunction with ODT, supports foreign policy and increases United States stature abroad. Morale and retention is increased and the ability of the United States to effectively execute its forward defense strategy is demonstrated. In FY 1989, 88,500 reserve component personnel trained in 96 foreign countries. The importance of ODT will increase if additional missions are transferred to the reserve components and United States forces are reduced overseas.

Department of Defense policy is to equip first those units that will deploy first. This policy, which was first recommended by the Board, has resulted in substantial amounts of modern equipment going to the reserve components. This has significantly increased readiness. Although excellent progress has been made in equipping National Guard and Reserve units, the shortfall of equipment on-hand versus wartime requirements was over $14 billion at the end of FY 1989.

It is important to national security that our National Guardsmen and Reservists be ready and fit to fight on a complex and unforgiving modern battlefield. I am convinced that every member of the reserve components must be physically fit prior to mobilization. This requirement can only be satisfied by strong leadership, and individual effort. History has proven that a force that is fit and ready is less likely to have to fight.

I do have two concerns about reserve component force structure and budget issues:

First, the reserve components provide a cost-effective means for augmenting the active forces and maintaining a strong deterrence. Recognizing this, budget makers are likely to try to save dollars, while maintaining capability, by transferring more missions from the active to the reserve components. The reserve components stand ready to accept additional responsibilities. However, the added missions and force structure must be adequately resourced, and they must be of the type that are supportable within the parameters of reserve component recruiting, retention, and training. It must be remembered that reserve component units are expected to maintain readiness in less than 20 percent of the time available to active component units. To demand more could adversely impact recruiting and retention. To allow less would hurt readiness.

My second concern is the tendency to think of "equal share" reductions when budget cuts are required. If budget reductions for the reserve components become necessary, they should not automatically be on an equal basis with the active component. "Equal share" budget reductions ignore fundamental differences between the active and reserve components, and are particularly inappropriate at a time when additional missions and force structure are being given to the reserve components.

The Total Force Policy is indeed the nation's shield. It is a sound concept that has made it possible for the United States to have an adequate defense at a reasonable cost. Today's reserve components are of high quality, well-equipped, well-trained, and ready to deploy. The Reserve Forces Policy Board stands ready to assist in developing and reviewing policies which will maintain and enhance reserve component readiness.

The Board's Annual Report is scheduled for publication in March 1990 and will provide a comprehensive report on reserve component programs.

Forwarded to the
Secretary of Defense

John O. Marsh, Jr.
Chairman

Stephen M. Duncan
Assistant Secretary of Defense
for Reserve Affairs

Appendix A

Department of Defense — Budget Authority by Appropriation[a] *(Dollars in Millions)*

Table A-1

	FY 1984	FY 1985	FY 1986[b]	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars								
Military Personnel	48,363	67,773	67,794	74,010	76,584	78,477	78,548	79,054
Retired Pay	16,503	*	*	*	*	*	*	*
Operations & Maintenance	70,950	77,803	74,888	79,607	81,629	86,221	86,761	90,092
Procurement	86,161	96,842	92,506	80,234	80,053	79,390	82,561	77,855
Research, Development, Test and Evaluation (RDT&E)	26,867	31,327	33,609	35,644	36,521	37,530	36,809	37,972
Military Construction	4,510	5,517	5,281	5,093	5,349	5,738	5,266	5,578
Family Housing	2,669	2,890	2,803	3,075	3,199	3,276	3,221	3,458
Special Foreign Currency Program	3	9	2	4				
Defense-wide Contingency								-300
Revolving & Management Funds	2,774	5,088	5,235	2,612	1,246	897	-769	2,228
Trust & Receipts	-628	-426	-707	-781	-801	-668	-999	-776
Deduct, Intragovt Receipt	-22	21	-22	-28	-26	-25	-28	-29
Total, Current $	**258,150**	**286,802**	**281,390**	**279,469**	**283,755**	**290,837**	**291,369**	**295,131**
Constant FY 1991 Dollars								
Military Personnel	63,155	80,110	77,261	82,442	82,100	81,460	81,142	79,054
Retired Pay	20,872	*	*	*	*	*	*	*
Operations & Maintenance	88,314	94,934	90,434	93,034	92,451	93,680	90,885	90,092
Procurement	110,696	120,712	111,707	93,481	89,698	85,559	85,627	77,855
RDT&E	34,311	38,819	40,562	41,706	41,198	40,653	38,306	37,972
Military Construction	5,820	6,905	6,423	5,973	6,021	6,203	5,469	5,578
Family Housing	3,355	3,535	3,349	3,576	3,604	3,546	3,356	3,458
Special Foreign Currency Program	4	11	2	4				
Defense-wide Contingency								-300
Revolving & Management Funds	3,522	6,248	6,253	3,037	1,407	972	-801	2,228
Trust & Receipts	-798	-523	-844	-908	-904	-723	-1,041	-776
Deduct, Intragovt Receipt	-28	-26	-26	-33	-30	-28	-30	-29
Total, Constant $	**329,224**	**350,724**	**335,123**	**322,311**	**315,546**	**311,324**	**302,915**	**295,131**
% Real Growth								
Military Personnel	1.2	26.8	-3.6	6.7	-0.4	-0.8	-0.4	-2.6
Retired Pay	-1.2	-100.0	0.0	0.0	0.0	0.0	0.0	0.0
Operations & Maintenance	5.2	7.5	-4.7	2.9	-0.6	1.3	-3.0	-0.9
Procurement	3.8	9.0	-7.5	-16.3	-4.0	-4.6	0.1	-9.1
RDT&E	13.6	13.1	4.5	2.8	-1.2	-1.3	-5.8	0.9
Military Construction	-3.2	18.6	-7.0	-7.0	0.8	3.0	-11.8	2.0
Family Housing	-4.4	5.4	-5.2	6.8	0.8	-1.6	-5.4	3.0
Total	**4.6**	**6.5**	**-4.4**	**-3.8**	**-2.1**	**-1.3**	**-2.7**	**-2.6**

[a] Numbers may not add to totals due to rounding.

[b] Lower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance $4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

* Retired pay accrual included in Military Personnel appropriation.

Department of Defense — Budget Authority by Component[a] (Dollars in Millions)

Table A-2

	FY 1984	FY 1985	FY 1986[b]	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Current Dollars								
Army	62,181	74,270*	73,128*	73,984*	75,813*	78,079*	77,606*	75,798*
Navy	82,088	99,015*	96,113*	93,500*	100,281*	97,675*	99,609*	99,484*
Air Force	86,108	99,420*	94,870*	91,624*	88,324*	94,685*	92,944*	94,817*
Defense Agencies/OSD/JCS	10,746	13,126	15,520	19,195	17,021	18,154	17,855	21,175
Defense-wide	17,027	970	1,759	1,168	2,315	2,245	3,356	3,858
Total, Current $	**258,150**	**286,802**	**281,390**	**279,469**	**283,755**	**290,837**	**291,369**	**295,131**
Constant FY 1991 Dollars								
Army	80,613	90,936*	86,997*	85,305*	83,959*	83,236*	80,557*	75,798*
Navy	104,583	121,238*	114,555*	107,752*	111,475*	104,511*	103,514*	99,484*
Air Force	108,512	120,836*	112,464*	105,289*	98,230*	101,442*	96,780*	94,817*
Defense Agencies/OSD/JCS	13,977	16,514	18,986	22,604	19,275	19,705	18,574	21,175
Defense-wide	21,540	1,200	2,120	1,362	2,608	2,429	3,490	3,858
Total, Constant $	**329,224**	**350,724**	**335,123**	**322,311**	**315,546**	**311,324**	**302,915**	**295,131**
% Real Growth								
Army	4.2	12.8	-4.3	-1.9	-1.6	-0.9	-3.2	-5.9
Navy	-2.8	15.9	-5.5	-5.9	3.5	-6.2	-1.0	-3.9
Air Force	13.6	11.4	-6.9	-6.4	-6.7	3.3	-4.6	-2.0
Defense Agencies/OSD/JCS	11.8	18.2	15.0	19.1	-14.7	2.2	-5.7	14.0
Defense-wide	-1.8	-94.4	76.6	-35.8	91.5	-6.9	43.7	10.5
Total	**4.6**	**6.5**	**-4.4**	**-3.8**	**-2.1**	**-1.3**	**-2.7**	**-2.6**

[a] Numbers may not add to totals due to rounding.

[b] Lower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance $4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

* Includes Retired Pay accrual.

Federal Budget Trends (Dollars In Millions)

Table A-3

Fiscal Year	Federal Outlays as a % of GNP	DoD Outlays as a % of Federal Outlays	DoD Outlays as a % of GNP	Non-DoD Outlays as a % of Federal Outlays	Non-DoD Outlays as a % of GNP	DoD Outlays as a % of Net Public Spending[a]
1950	16.0	27.5	4.4	72.5	11.6	17.9
1955	17.6	51.5	9.1	48.5	8.6	34.5
1960	18.2	45.0	8.2	55.0	10.0	28.8
1965	17.5	38.8	6.8	61.2	10.7	23.8
1970	19.8	39.4	7.8	60.6	12.0	23.6
1971	19.9	35.4	7.0	64.6	12.8	20.6
1972	20.0	32.6	6.5	67.4	13.5	18.8
1973	19.1	29.8	5.7	70.2	13.4	17.1
1974	19.0	28.8	5.5	71.2	13.5	16.6
1975	21.8	25.5	5.6	74.5	16.2	15.1
1976	21.9	23.6	5.2	76.4	16.7	14.0
1977	21.1	23.4	4.9	76.6	16.2	14.0
1978	21.1	22.5	4.7	77.5	16.4	13.6
1979	20.5	22.8	4.7	77.2	15.8	13.8
1980	22.2	22.5	5.0	77.5	17.2	13.8
1981	22.7	23.0	5.2	77.0	17.5	14.4
1982	23.7	24.5	5.8	75.5	17.9	15.5
1983	24.3	25.4	6.2	74.6	18.2	16.1
1984	23.1	25.9	6.0	74.1	17.1	16.3
1985	24.0	25.9	6.2	74.1	17.8	16.4
1986	23.6	26.8	6.3	73.2	17.3	16.6
1987	22.6	27.3	6.2	72.7	16.4	16.5
1988	22.3	26.5	5.9	73.5	16.3	16.0
1989	22.2	25.6	5.7	74.4	16.5	15.4
1990	21.8	24.0	5.2	76.0	16.6	14.3
1991	21.0	23.7	5.0	76.3	16.0	13.9

[a] Federal, state, and local net spending excluding government enterprises (such as the postal service and public utilities) except for any support these activities receive from tax funds.

Defense Shares of Economic Aggregates

Table A-4

Fiscal Year	DoD as a Percentage of Public Employment		DoD as a Percentage of National Labor Force		National Income Accounts Percentage of Total Purchases		
	Federal	Federal State & Local	Direct Hire (DoD)	Including Industry	National Defense[a]	Total Federal	State & Local
1965	71.3	29.3	5.0	7.8	7.3	9.8	9.8
1966	73.0	30.6	5.6	9.0	7.5	10.0	10.0
1967	74.1	31.5	6.0	10.0	8.7	11.0	10.4
1968	74.0	31.3	6.1	10.0	9.0	11.4	10.8
1969	73.2	30.1	5.9	9.4	8.5	10.8	11.0
1970	72.3	27.7	5.3	8.1	7.9	10.1	11.4
1971	68.3	24.3	4.6	7.0	7.1	9.3	12.0
1972	66.0	21.5	4.0	6.2	6.6	9.0	12.0
1973	65.0	20.4	3.7	5.8	6.0	8.2	11.8
1974	63.8	19.4	3.5	5.5	5.6	7.7	12.0
1975	62.9	18.6	3.4	5.3	5.7	8.1	12.8
1976	62.5	18.1	3.3	5.0	5.4	7.8	12.7
1977	62.5	17.5	3.2	5.0	5.1	7.6	11.9
1978	61.9	17.0	3.1	4.8	4.9	7.3	11.8
1979	61.1	16.5	2.9	4.7	4.8	7.1	11.5
1980	61.3	16.5	2.8	4.7	5.1	7.5	11.8
1981	62.4	17.1	2.8	4.7	5.4	7.8	11.4
1982	63.2	17.4	2.8	4.9	6.0	8.4	11.5
1983	63.5	17.6	2.9	5.1	6.3	8.7	11.6
1984	63.5	17.6	2.8	5.3	6.2	8.1	11.2
1985	63.3	17.5	2.9	5.5	6.4	8.7	11.5
1986	63.2	17.2	2.8	5.6	6.6	8.8	11.8
1987	62.9	17.1	2.8	5.6	6.6	8.5	12.1
1988	61.8	16.5	2.7	5.4	6.2	7.8	12.0
1989	61.5	16.0	2.6	5.3	5.9	7.8	12.1

[a] Includes Department of Defense — military, atomic energy defense activities, and other defense-related activities, such as emergency management and maintenance of strategic stockpiles and the Selective Service System.

Appendix B

Military and Civilian Personnel Strength[a] (End Fiscal Year — In Thousands)

Table B-1

	Actual										Programmed	
	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Active Component Military												
Army	777	781	780	780	780	781	781	781	772	770	744	728
Navy	527	540	553	557	565	571	581	587	593	593	591	585
Marine Corps	189	191	192	194	196	198	199	199	197	197	197	197
Air Force	562	575	588	597	597	601	608	607	576	571	545	530
Total	**2,055**	**2,087**	**2,113**	**2,128**	**2,138**	**2,151**	**2,169**	**2,174**	**2,138**	**2,131**	**2,077**	**2,040**
Reserve Component Military (Selected Reserve)												
ARNG	366.6	389.0	407.6	417.2	434.3	440.0	446.2	451.9	455.2	457.0	447.3	447.3
Army Reserve	213.2	232.0	256.7	266.2	275.1	292.1	309.7	313.6	312.8	319.2	309.2	309.2
Naval Reserve	97.1	98.3	104.8	109.1	120.6	129.8	141.5	148.1	149.5	151.2	153.4	149.7
MC Reserve	35.7	37.3	40.5	42.7	40.6	41.6	41.6	42.3	43.6	43.6	44.0	43.9
ANG	96.3	98.3	100.6	102.2	105.0	27.3	112.6	114.6	115.2	116.1	116.2	116.3
Air Force Reserve	59.8	62.3	64.4	67.2	70.3	75.2	78.5	80.4	82.1	83.2	84.9	85.2
Total	**868.7**	**917.2**	**974.6**	**1004.6**	**1045.9**	**1006.0**	**1130.1**	**1150.9**	**1158.4**	**1170.6**	**1155.0**	**1151.6**
Direct Hire Civilian												
Army[b]	312	318	321	332	343	359	353	358	337	347	334	334
Navy	298	310	309	328	332	343	332	343	337	343	337	330
Air Force[b]	231	233	235	238	240	250	250	252	241	249	249	246
Defense Agencies	75	79	80	82	85	91	92	96	95	98	98	103
Total	**916**	**940**	**945**	**980**	**1000**	**1043**	**1027**	**1049**	**1010**	**1037**	**1018**	**1013**

[a] Numbers may not add to totals due to rounding.

[b] These totals include Army and Air National Guard technicians, who were converted from state to federal employees in FY 1979.

U.S. Military Personnel in Foreign Areas[a] (End Fiscal Year — In Thousands)

Table B-2

	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989[b]
Germany	239	244	248	256	254	254	247	250	251	249	249
Other Europe	61	65	64	67	70	73	75	73	73	74	71
Europe, Afloat	25	22	25	33	18	25	36	33	31	33	21
South Korea	39	39	38	39	39	41	42	43	45	46	44
Japan	46	46	46	51	49	46	47	48	50	50	50
Other Pacific	15	15	16	15	15	16	16	17	18	17	16
Pacific Afloat (Including Southeast Asia)	22	16	25	33	34	18	20	20	17	28	25
Latin America/Caribbean	12	11	12	11	14	13	12	13	13	15	21
Miscellaneous Foreign	9	31	27	23	27	25	20	26	27	29	13
Total	**468**	**489**	**502**	**528**	**520**	**511**	**515**	**525**	**524**	**541**	**510**

[a] Numbers may not add to totals due to rounding.
[b] As of September 30, 1989.

Appendix C

Department of Defense Strategic Forces Highlights

Table C-1

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Strategic Offense							
Land-Based ICBMs[a]							
Titan	52	32	7	—	—	—	—
Minuteman	1,000	1,000	998	954	950	950	950
Peacekeeper	—	—	2	46	50	50	50
Strategic Bombers (PAA)[b]							
B-52D	75	—	—	—	—	—	—
B-52G/H	241	241	241	234	173	154	154
B-1B	—	—	18	90	90	90	90
Fleet Ballistic Missile Launchers (SLBMs)[a]							
Poseidon A-3	80	—	—	—	—	—	—
Poseidon (C-3 and C-4)	336	384	320	336	384	368	368
Trident	—	72	144	192	192	240	288
Strategic Defense Interceptors (PAA/Squadrons)[b]							
Active	127/7	90/5	76/4	36/2	36/2	18/1	18/1
Air National Guard	165/10	162/10	198/1	216/12	216/12	216/12	216/12

[a] Number on line.
[b] Primary aircraft authorized.

Department of Defense
General Purpose Forces Highlights

Table C-2

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Land Forces							
Army Divisions							
Active	16	16	18	18	18	18	16
Reserve	8	8	10	10	10	10	10
Marine Corps Divisions							
Active	3	3	3	3	3	3	3
Reserve	1	1	1	1	1	1	1
Army Separate Brigades[a]							
Active	8	8	7	8	8	8	8
Reserve	26	23	20	20	20	19	19
Army Special Forces Groups							
Active	2	4	4	4	4	5	5
Reserve	4	4	4	4	4	4	4
Army Ranger Regiment	0	0	1	1	1	1	1
Tactical Air Forces (PAA/Squadrons)[b]							
Air Force Attack and Fighter Aircraft							
Active	1,608/74	1,734/77	1,764/78	1,868/79	1,769/79	1,743/75	1,746/75
Reserve	758/36	852/43	876/43	909/43	897/42	867/42	849/42
Conventional Bombers							
B-52G	0	0	0	0	61	33	33
Navy Attack and Fighter Aircraft							
Active	696/60	616/63	758/65	758/67	730/65	698/66	684/66
Reserve	120/10	75/9	107/10	121/10	118/10	61/10	116/10
Marine Corps Attack and Fighter Aircraft							
Active	329/25	256/24	333/25	346/25	335/25	348/26	383/27
Reserve	84/7	90/8	94/8	96/8	90/8	102/8	102/8
Naval Forces							
Strategic Forces Ships	48	41	45	43	42	40	41
Battle Forces Ships	384	425	437	437	434	412	397
Support Forces Ships	41	46	55	60	64	66	68
Reserve Forces Ships	6	12	18	25	26	33	40
Total Deployable Battle Forces	479	524	555	565	566	551	546
Other Reserve Forces Ships	44	24	21	21	21	21	17
Other Auxiliaries	8	9	7	5	3	3	3
Total Other Forces	52	33	28	26	24	24	20

[a] Does not include roundout brigades; does include the eskimo scout group and the armored cavalry regiments.
[b] PAA — Primary aircraft authorized.

Department of Defense Airlift and Sealift Forces Highlights

Table C-3

	FY 1980	FY 1984	FY 1986	FY 1988	FY 1989	FY 1990	FY 1991
Intertheater Airlift (PAA)[a]							
C-5	70	70	71	98	110	110	110
C-141	234	234	234	234	234	234	234
KC-10	—	25	48	57	57	57	57
C-17	—	—	—	—	—	—	—
Intratheater Airlift (PAA)[a]							
C-130	482	520	504	521	492	450	444
C-123	64	—	—	—	—	—	—
C-7A	48	—	—	—	—	—	—
Sealift Ships, Active[b]							
Tankers	21	21	24	20	29	28	27
Cargo	23	30	40	41	40	40	39
Sealift Ships, Reserve[b]							
RRF[c]	24	51	77	91	93	100	105
NDRF[d]	—	—	—	129	128	120	118

[a] Primary aircraft authorized.
[b] Includes fast sealift ships, afloat prepositioned force ships, and common user (charter) ships.
[c] Ready Reserve Force (assigned to 5-, 10-, or 20-day reactivation readiness groups).
[d] National Defense Reserve Fleet (beginning in FY88 specific NDRF ships were designated militarily useful ships).

Appendix D

Selection of Officers for Award of the Joint Specialty (FY1989)

Table D-1

Service	I	II	III	IV	V	Total
Army	33	27	1315	820	15	2210
Navy	8	7	628	202	0	845
USMC	12	1	255	160	3	431
USAF	30	39	1537	241	10	1857
DOD	83	74	3735	1423	28	5343

NOTES: TYPE I includes officers who have completed both a joint professional military education (JPME) course and a subsequent joint duty assignment (JDA). TYPE II includes officers who have completed both the joint education and assignment prerequisites, but required a waiver for the sequence of the prerequisites. TYPE III includes officers who have completed a JDA, but required a waiver for the joint education course. TYPE IV includes officers who completed a joint education course, but received a waiver for completing a JDA. TYPE V includes officers who qualified for the joint specialty under the critical occupational specialty (COS) provision of the law.

Critical Occupational Specialties

Table D-2

The following military specialties, listed by service, are designated as critical occupational specialties. In every case, the specialties so designated are each service's "combat arms" specialties.

Army	Navy	USAF	USMC
Infantry	Surface	Pilot	Infantry
Armor	Submariner[a]	Navigator	Tanks/AAV
Artillery	Aviation	Air Weapons Director[a]	Artillery
Air Defense Artillery	SEALs[a]	Missile Operations[a]	Air Control/Air Support/AntiAir
Aviation	Special Operations	Space Operations[a]	Aviation
Special Operations		Operations Mgt	Engineers
Combat Engineers			

[a] Combat arms military occupational specialties which have a severe shortage of officers

Critical Occupational Specialty Officers

Table D-3

Category	Army	Navy	USAF	USMC	Total
JSO Nominee	139	173	1099	97	1508
JSO Nominee in a JDA	139	160	986	90	1375
JSO Nominee in a JDA, no JPME	41	43	967	89	1140
Completed a JDA and at JPME	2	11	7	0	20
Completed JPME in FY 89	326	185	266	160	937
Selected for JSO	1148	546	961	272	2927

Critical Occupational Specialty Officers

Table D-4

	2nd JDA						Critical JDA					
	FG			G/FO			FG			G/FO		
	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl	Have Srvd	Are Srvg	Ttl
Army	10	123	133	0	26	26	1	34	35	0	1	1
Navy	0	13	13	0	3	3	0	3	3	0	1	1
USAF	0	25	25	2	1	3	0	7	7	3	1	4
USMC	0	2	2	0	2	2	0	1	1	0	1	1
Total	**10**	**163**	**173**	**2**	**32**	**34**	**1**	**45**	**46**	**3**	**4**	**7**

Officers Nominated for the Joint Specialty

Table D-5

	Nominated (COS)	Total Nominated
Army	139	158
Navy	43	173
USAF	1099	1174
USMC	97	97
Total	**1378**	**1602**

JOINT DUTY ASSIGNMENT OBJECTIVES
Annual Report on FY 1989 Promotion Rates

Promotion rates required by the DoD Reorganization Act of 1986, with the intent to measure the quality of officers assigned to joint duty, are attached in the following pages. Brief explanations for the "in zone" categories where the required promotion objectives were not met are consolidated in Table D-6. As reported in September 1989, the Joint Staff and joint commanders have seen a noticeable improvement in the quality of officers assigned. Since that report was submitted, a joint study group has begun looking at the current methods of measuring the quality of officers to determine if the Department is capturing the best data available. Preliminary results of that group's effort show that promotion rates appear to be the best objective measure of quality; however, this methodology does have some shortcomings.

For example, many cases where promotion objectives were not achieved were a result of small populations, many where only one officer with joint experience was eligible, and cases where one additional selectee would have meant meeting or exceeding the promotion objective. Also, FY 1989 boards contained some officers who were still in joint duty assignments based on pre-Act assignment practices — the net result being lower joint promotion rates. It will be another year before the joint promotion statistics fully reflect the post-Goldwater-Nichols assignment practices.

Other areas of concern include the above/below zone statistics and the exclusion of some officers from the statistics. Above and below zone statistics are difficult to compare and analyze because of the extremely low promotion opportunity in these zones. Additionally, the different promotion philosophies for above/below zone promotions of the Services complicates the analysis. Furthermore, the requirement to exclude joint specialty officers serving in the "other joint duty" category does not appear to be a reasonable measure of the quality in this category. Lastly, many quality officers assigned to joint duty will not be reflected in the statistics for many years. For example, on the FY 1989 Army Colonel Selection Board, due to assignment timing, 147 of the 540 officers selected in-zone were senior service college students. When these officers are included in the statistics based on their subsequent assignments (2 months after the board), the joint promotion rates are considerably higher (see Note #5 in Table D-6).

The joint study group is looking closely at these areas of concern to determine better ways to monitor the Department's progress toward this important objective of assigning quality officers to joint duty.

NOTE: In the tables that follow, a dash (–) indicates there were no eligible officers in that category and a "N/A" means that no such category exists for that rank.

Promotion Rates

Table D-6

Rank	Joint Categories	Are Serving In (In Percent) In Zone	Below Zone	Above Zone	Have Served In (In Percent) In Zone	Below Zone	Above Zone	Remarks
Air Force Promotion Rates (Line)								
0 8	Joint Staff	25	N/A	N/A	50	N/A	N/A	See note 2
	Joint Specialty	38	N/A	N/A	38	N/A	N/A	
	Service HQS	37	N/A	N/A	14	N/A	N/A	
	Other Joint	0	N/A	N/A	0	N/A	N/A	See note 1
	Service Average	36	N/A	N/A	36	N/A	N/A	
0 7	Joint Staff	4	N/A	N/A	0	N/A	N/A	See note 2
	Joint Specialty	3	N/A	N/A	3	N/A	N/A	See note 3
	Service HQS	4	N/A	N/A	2	N/A	N/A	
	Other Joint	0	N/A	N/A	0	N/A	N/A	See notes 2 & 3
	Service Average	2	N/A	N/A	2	N/A	N/A	
0 6	Joint Staff	58	2	40	67	0	—	See note 2
	Joint Specialty	68	5	14	68	5	14	
	Service HQS	59	4	11	58	23	7	
	Other Joint	42	1	6	27	1	3	See notes 3 & 4
	Service Average	44	3	3	44	3	3	
0 5	Joint Staff	91	8	60	100	0	0	See note 2
	Joint Specialty	93	6	67	93	6	33	See note 2
	Service HQS	92	8	19	100	14	0	
	Other Joint	70	2	10	69	3	9	
	Service Average	64	3	7	64	3	7	
0 4	Joint Staff							
	Joint Specialty							
	Service HQs	(No Board in FY 89)						
	Other Joint							
	Service Average							
Army Promotion Rates (Army Competitive Category)								
0 8	Joint Staff	33	—	N/A	33	—	N/A	See note 2
	Joint Specialty	47	—	N/A	47	—	N/A	See note 2
	Service HQS	40	—	N/A	50	—	N/A	
	Other Joint	46	—	N/A	36	—	N/A	
	Service Average	36	—	N/A	36	—	N/A	
0 7	Joint Staff	8	—	N/A	2	—	N/A	See note 2
	Joint Specialty	3	—	N/A	3	—	N/A	See note 3
	Service HQS	2	—	N/A	7	—	N/A	
	Other Joint	7	—	N/A	6	—	N/A	
	Service Average	2	—	N/A	2	—	N/A	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-6	Joint Staff	53	0	6	47	5	—	See note 3
	Joint Specialty	47	2	2	47	2	—	
	Service HQS	40	0	0	35	4	—	
	Other Joint	28	0	1	12	0	—	See note 5
	Service Average	41	2	1	41	2	—	
O-5	Joint Staff	100	17	0	100	0	—	
	Joint Specialty	79	7	16	79	6	23	See note 4
	Service HQS	80	7	12	75	18	25	
	Other Joint	68	5	2	49	2	2	See note 4
	Service Average	61	6	5	61	6	5	
O-4	Joint Staff	100	—	—	100	100	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	86	11	—	88	11	—	
	Other Joint	86	—	—	86	—	—	
	Service Average	69	3	19	69	3	19	
Marine Corps Promotion Rates (Unrestricted)								
O-8	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	44	—	N/A	44	—	N/A	See note 6
	Service HQS	75	—	N/A	70	—	N/A	
	Other Joint	—	—	N/A	50	—	N/A	
	Service Average	42	—	N/A	42	—	N/A	
O-7	Joint Staff	25	—	N/A	0	—	N/A	See note 1
	Joint Specialty	4	—	N/A	—	—	N/A	
	Service HQS	4	—	N/A	2	—	N/A	
	Other Joint	40	—	N/A	0	—	N/A	See note 1
	Service Average	3	—	N/A	3	—	N/A	
O-6	Joint Staff	100	0	10	—	0	—	
	Joint Specialty	60	0	0	60	—	0	See note 2
	Service HQS	63	0	11	62	0	8	
	Other Joint	39	0	13	33	0	0	See note 2
	Service Average	45	0	6	45	0	6	
O-5	Joint Staff	78	0	—	100	0	—	
	Joint Specialty	78	0	0	78	0	0	
	Service HQS	78	0	4	67	0	11	
	Other Joint	75	0	0	40	0	29	See note 2
	Service Average	60	0	6	60	0	6	
O-4	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	67	0	25	67	0	0	
	Other Joint	33	0	0	50	—	0	See note 3
	Service Average	67	0	17	67	—	17	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
Navy Promotion Rates								
0-8 Unrestricted Line	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	50	14	N/A	—	—	N/A	
	Service HQS	50	40	N/A	—	—	N/A	
	Other Joint	33	0	N/A	—	—	N/A	See note 2
	Service Average	54	17	N/A	—	—	N/A	
Cryptology	Joint Staff	100	—	N/A	—	—	N/A	
	Joint Specialty	—	—	N/A	—	—	N/A	
	Service HQS	—	—	N/A	—	—	N/A	
	Other Joint	—	—	N/A	—	—	N/A	
	Service Average	100	—	N/A	—	—	N/A	
Supply	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	100	0	N/A	—	—	N/A	
	Service HQS	—	—	N/A	—	—	N/A	
	Other Joint	—	—	N/A	—	—	N/A	
	Service Average	67	17	N/A	—	—	N/A	
0-7 Unrestricted Line	Joint Staff	0	6	—	—	—	N/A	See note 2
	Joint Specialty	2	3	—	—	10	N/A	See note 2
	Service HQS	3	8	—	—	—	N/A	
	Other Joint	0	1	—	—	—	N/A	See note 2
	Service Average	1	3	—	—	3	N/A	
Civil Engineer	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	0	0	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	
	Service Average	0	0	N/A	—	—	N/A	
Engineering Duty	Joint Staff	—	—	N/A	—	—	N/A	
	Joint Specialty	0	0	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	—	0	N/A	—	—	N/A	See note 1
	Service Average	0	2	N/A	—	—	N/A	
Public Affairs	Joint Staff	0	—	N/A	—	—	N/A	See note 1
	Joint Specialty	20	0	N/A	20	—	N/A	See note 6
	Service HQS	50	—	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	See note 2
	Service Average	11	0	N/A	11	—	N/A	
Supply	Joint Staff	0	0	N/A	—	—	N/A	
	Joint Specialty	0	3	N/A	—	—	N/A	
	Service HQS	0	0	N/A	—	—	N/A	
	Other Joint	0	0	N/A	—	—	N/A	
	Service Average	0	3	N/A	—	—	N/A	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-6 Unrestricted Line	Joint Staff	67	0	25	—	0	—	
	Joint Specialty	70	0	0	—	—	—	
	Service HQS	38	2	0	100	0	—	
	Other Joint	28	0	0	0	0	0	See note 7
	Service Average	49	2	2	49	2	—	
Civil Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	See note 2
	Service HQS	50	0	—	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 1
	Service Average	46	0	11	—	—	—	
Aeronautical Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	See note 1
	Service HQS	100	0	—	—	—	—	
	Other Joint	—	0	0	—	—	—	
	Service Average	45	0	7	—	—	—	
Cryptology	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	100	—	—	—	
	Service HQS	0	0	—	—	—	—	
	Other Joint	0	0	13	—	—	—	See note 1
	Service Average	33	4	8	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	33	—	—	—	—	
	Other Joint	0	0	—	—	—	—	See note 1
	Service Average	50	2	—	—	—	—	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	0	0	—	—	—	
	Service HQS	0	0	0	—	—	—	
	Other Joint	0	0	8	—	—	—	See note 2
	Service Average	44	6	4	—	—	—	
Oceanography	Joint Staff	0	—	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	
	Service HQS	0	0	—	—	—	—	
	Other Joint	—	0	—	—	—	—	
	Service Average	55	3	—	—	—	—	
Public Affairs	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	67	0	—	—	—	—	See note 2
	Service HQS	100	0	—	—	—	—	
	Other Joint	67	0	0	—	—	—	
	Service Average	44	7	0	—	—	—	
Supply	Joint Staff	—	0	—	—	—	—	
	Joint Specialty	0	0	—	—	—	—	
	Service HQS	—	0	—	—	—	—	
	Other Joint	14	0	0	—	—	—	See note 2
	Service Average	44	2	3	—	—	—	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served in (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
(O-5) Line	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	64	3	50	100	0	—	See note 2
	Service HQS	93	3	9	50	0	33	
	Other Joint	45	3	1	—	—	0	See note 2
	Service Average	61	2	2	61	2	2	
Civil Engineer	Joint Staff	—	0	—	—	—	—	
	Joint Specialty	—	—	0	—	0	0	
	Service HQS	100	0	0	—	—	0	
	Other Joint	—	—	0	—	0	0	
	Service Average	63	0	4	—	0	4	
Aeronautical Engineer	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	57	0	17	—	—	—	
Cryptology	—	—	0	—	—	—	—	
	Joint Specialty	—	0	0	—	—	—	
	Service HQS	—	—	0	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	64	3	0	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	100	0	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	100	0	0	—	—	0	
	Service Average	63	3	4	—	—	3	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	83	0	0	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	70	0	0	—	—	—	See note 2
	Service Average	74	0	0	—	—	—	
Public Affairs	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	0	—	—	—	—	100	
	Service HQS	—	—	—	—	—	100	
	Other Joint	0	0	—	—	—	—	See note 2
	Service Average	33	14	—	—	—	14	
Supply	Joint Staff	100	—	—	—	—	—	
	Joint Specialty	80	0	—	—	—	—	See note 2
	Service HQS	100	0	—	—	—	—	
	Other Joint	67	0	0	—	—	—	
	Service Average	66	0	2	—	—	—	

Promotion Rates (Continued)

Table D-6

Rank	Joint Categories	Are Serving In (In Percent)			Have Served In (In Percent)			Remarks
		In Zone	Below Zone	Above Zone	In Zone	Below Zone	Above Zone	
O-4 Unrestricted Line	Joint Staff	67	0	0	5	0	0	See note 2
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	75	4	0	100	0	0	
	Other Joint	55	1	0	50	0	—	See note 3
	Service Average	73	2	15	73	2	15	
Cryptology	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	50	—	—	—	—	
	Other Joint	0	0	0	—	—	—	See note 2
	Service Average	69	3	10	—	—	—	
Engineering Duty	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	50	0	—	—	—	—	See note 2
	Service Average	78	1	—	—	—	—	
Intelligence	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	0	
	Other Joint	67	0	0			0	See note 2
	Service Average	80	2	0			2	
Oceanography	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	—	—	—	—	—	—	
	Other Joint	67	0	—	—	—	—	See note 2
	Service Average	74	0	—	—	—	—	
Supply	Joint Staff	—	—	—	—	—	—	
	Joint Specialty	—	—	—	—	—	—	
	Service HQS	0	—	—	—	—	—	
	Other Joint	57	0	0	—	0	—	See note 2
	Service Average	64	2	26	—	2	—	

Notes:
1. Small numbers involved — only one officer with joint experience eligible for promotion in this competitive category.
2. Small numbers involved — one additional selection in this promotion category needed to meet promotion objective.
3. Small numbers involved — less than 3 1/2% of eligible population; comparison and analysis is inconclusive.
4. Within 2% of meeting promotion objective.
5. If the Senior Service College students who were selected for promotion were included with their post PME organization, the promotion rate for "other joint duty" would have been 47% — exceeding the service average by 6%.
6. Small numbers involved — if one more joint specialist officer and one less Service Headquarters General Officer were selected, the promotion objective would have been met.
7. Several non selectees were assigned to joint positions under pre DoD Reorganization Act assignment policies. Now qualify officers are being assigned to their positions, i.e., O-6 promotion rates for those assigned in 1989 were 73% compared to 49% service average.

Analysis of the Assignment of Officers Following Selection for the Joint Specialty

Table D-7

Category	Army	Navy	USAF	USMC	Total
Command	246	174	179	59	658
Service HQ	130	89	54	46	319
Joint Staff					
Critical	6	3	6	2	17
Other JDA	37	9	14	3	63
Total	43	12	20	5	80
Other Joint					
Critical	98	30	50	11	189
Other JDA	283	70	123	33	509
Total	381	100	173	44	698
PME	192	93	70	16	371
Other Oper	337	65	97	139[a]	638
Other Staff	608	57[b]	306	63[a]	1034
Other Shore	—	357	—	14	371

The information in this chart identifies the first reassignment of an officer following selection for the joint specialty.

[a] For the Marine Corps, Other Oper = Fleet Marine Force and Other Staff = non-Fleet Marine Corps.

[b] For Navy, Other Staff includes other shore assignments.

Average Length of Tours of Duty in Joint Duty Assignments (FY 1989) (In Months)

Table D-8

	Joint Staff	Other Joint	Joint Total
General/Flag Officers			
Army	26	26	26
Navy	28	25	26
USMC	35	27	28
USAF	21[a]	29	28
DOD	26	27	27
Other Officers			
Army	35	40	40
Navy	37	40	39
USMC	38	37	37
USAF	40	41	41
DOD	37	40	40

[a] One of the five assignments in this category was unusually short, indirectly due to the change of administrations in early 1989.

Tour Length Exclusions

Table D-9

Category	Army	Navy	USAF	USMC	Total
Retirement	49	74	107	15	245
Separation	0	10	2	0	12
Suspension From Duty	5	1	4	0	10
Compassionate/Medical	15	5	2	1	23
Other Joint After Promotion	2	0	1	0	3
Deactivation of Unit	5	3	2	0	10
Joint Overseas	191	47	358	16	612
Joint Accumulation	33	0	0	0	33
COS Reassignment	68	29	19	7	123
Total	**368**	**169**	**495**	**39**	**1071**

Officer Distribution by Service (FY 1989)

Table D-10

	Joint Staff	Other Joint Duty	Total Joint Duty[a]	Total DOD (Percent)
Army	305	2814	3119 (36.2%)	35.3
Navy	237	1627	1864 (21.6%)	23.8
USMC	50	408	458 (5.3%)	6.6
USAF	339	2334	2173 (37.7%)	34.3
DOD	931	7721	8623	

[a] From Joint Duty Assignment List

Waiver Authority Use

Table D-11

	Army		Navy		USAF		USMC		Total		
Category	FG	GO	FG	FO	FG	GO	FG	GO	FG	GO	Total
A1	27	1	7	0	15	0	8	0	57	1	58
A2	42	0	3	0	23	7	13	4	81	11	92
B1	0	0	0	0	2	0	0	0	2	0	2
B2	42	0	3	0	23	7	13	4	81	11	92
C1	3	NA	0	NA	1	NA	11	NA	15	NA	15
C2	24	NA	13	NA	37	NA	13	NA	87	NA	87
D1	44	7	26	4	16	5	4	0	90	16	106
D2	792	39	358	17	748	32	122	9	2020	97	2117
E1	NA	2	NA	13	NA	17	NA	0	NA	32	32
E2	NA	42	NA	22	NA	32	NA	11	NA	107	107
F1	NA	2	NA	6	NA	1	NA	1	NA	10	10
F2	NA	30	NA	15	NA	17	NA	8	NA	70	153
G1	NA	18	NA	19	NA	33	NA	3	NA	73	73
G2	NA	30	NA	15	NA	17	NA	8	NA	70	70
H1	2098	69	842	65	1805	24	418	0	5163	158	5321
H2	42	0	3	0	23	7	13	14	81	11	92

1 = Waiver was exercised
2 = No waiver was exercised
Waivers include: (A) JSO sequence waiver, (B) JSO two tour waiver, (C) waiver of post JPME JDA assignment for JSO, (D) JDA tour length waiver, (E) CAPSTONE course waiver, (F) waiver for promotion to O-7, (good of the service), (G) waiver for promotion to O-7, (sci/tech, professional, joint equivalence, navy nuclear), and (H) temporary waiver provisions for award of JSO.

Critical Positions Summary

Table D-12

Category	Army	Navy	USAF	USMC	TOTAL
Total Positions	381	201	382	60	1024
Vacant	21(6%)	15(7%)	43(11%)	0(0%)	79(8%)
JSO Filled	276(72%)	140(70%)	289(76%)	45(75%)	750(73%)
Non-JSO Filled	83(22%)	46(23%)	50(13%)	15(25%)	194(19%)
Percent JSO Filled Since 1 Jan 89	82	85	84	82	84

Reasons Above Positions Were Not Filled By Joint Specialty Officers

Position filled by incumbent prior to being a joint position	68
Position being converted to a non-critical position or being deleted	8
Joint Specialist Officers not available	15
Best Qualified Officers not a Joint Specialist	18
Position filled by incumbent prior to being a critical position	47
Other	38
Total	194

JDA Positions Not Filled by Joint Specialists

Table D-13

The following joint organizations have joint duty billets not filled by joint specialists.

Organizations	JDA Positions Not Filled By JSOs
Office of Secretary of Defense (OSD)	8
Defense Nuclear Agency (DNA)	2
Defense Mapping Agency (DMA)	5
Defense Logistics Agency (DLA)	6
Defense Communications Agency (DCA)	12
Defense Intelligence Agency (DIA)	15
Defense Attaches	2
National Security Agency (NSA)	5
Defense Mobilization Systems Planning Activity	1
US Atlantic Command (USLANTCOM)	8
US Central Command (USCENTCOM)	11
US European Command (USEUCOM)	14
US Pacific Command (USPACOM)	21
US Southern Command (USSOUTHCOM)	9
US Special Operations Command (USSOCOM)	2
Joint Special Operations Command (JSOC)	1
US Transportation Command (USTRANSCOM)	2
NATO Military Committee	1
Allied Command Europe (ACE)	20
Allied Command Atlantic (ACLANT)	8
HQ North American Aerospace Command	6
Combined Field Army (CFA)	3
Joint Staff	22
National Defense University (NDU)	4
Joint Strategic Target Planning Staff (JSTPS)	4
Joint Warfare Center (JWC)	1
Joint Doctrine Center (JDC)	1
Military Entrance Processing Command (MEPCOM)	1
Total	**194**

TUESDAY, FEBRUARY 20, 1990.

FISCAL YEAR 1991 AIR FORCE POSTURE

WITNESSES

HON. DONALD B. RICE, SECRETARY OF THE AIR FORCE
GENERAL LARRY D. WELCH, CHIEF OF STAFF, U.S. AIR FORCE

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

The Committee will hear testimony today in support of the fiscal year 1991 budget request for the Air Force. The total request to be considered by this subcommittee is $93.2 billion, an increase of $2.8 billion above the amount available in fiscal year 1990.

We are pleased to welcome today the Honorable Donald B. Rice, appearing before this Subcommittee for the first time in his capacity as Secretary of the Air Force, and General Larry D. Welch, probably appearing for the last time as Chief of Staff of the Air Force.

Secretary Rice just came back from the Pacific area yesterday, so he has a time lag, and we will have to make sure we keep the questions interesting so we can keep him awake.

Mr. Secretary, we appreciate your cooperation last year, yours and General Welch in particular, with some of the programs that we had problems with in our mark-up, and I know particularly with the Advanced Tactical Fighter. We spent a lot of time on it and I particularly appreciate the Air Force's attention to a program which we felt was out of control. I know you have moved diligently to get it under control and we appreciate that type of cooperation.

One thing I wanted to bring up, during the mark-up, there was a lot of commotion about the provision making sure the Speaker had an airplane. I will tell you an interesting incident.

The Speaker of the House was on an airplane the other day and an individual tried to open one of the doors. I am not sure whether he opened it, but there was decompression inside, the fellow said he heard voices, and they got him into a seat and got him under control, but it is a scary thing to think that the person third in line to the Presidency is flying on a commercial airline. With the terrorism that is going on in the world, we appreciate the cooperation of the Air Force in making sure that when the Speaker is on official business, he would have an adequate Air Force airplane available to him.

It just reinforces what all of us said last year; that there is a tremendous possibility that something could happen with all the activity that is going on and we are obviously concerned. Again we appreciate the cooperation.

I visited the hospital down in Texas where the wounded from the Panama operation were treated, and I heard nothing but compliments. As a matter of fact, one SEAL—as everybody here knows, we are talking about a Navy underwater demolition expert—said it was the best hospital in the world. It saved his leg. Now, there were only three people left in that hospital, but they were very complimentary.

The procedures put in place after the operation were phenomenal; we had plenty of notice, had people they needed there, and flew the airplanes right up to the hangar, and even though it was cold, they adjusted to that. My compliments on the outstanding job in the view of the patients. If there were complaints, they would have complained. They were so complimentary, and I pass those compliments on to you both.

Mr. McDade.

Mr. McDade. Thank you, Mr. Chairman.

We welcome Don Rice and congratulate you for the work you are doing. We are in a very difficult time and a lot of very, very difficult decisions. We have enjoyed, I think, a very warm relationship since you came on board and I know we are going to continue that as we go through what promises to be as difficult a year as we have ever faced.

General, I hear this is your last trip around.

General Welch. I made those announcements to someone else, Mr. Congressman.

Mr. McDade. Have you made a decision?

General Welch. Chief of Staff tour is a four-year tour that is up on 1 July.

Mr. McDade. How many years have you served the country?

General Welch. Thirty-seven years.

Mr. McDade. We appreciate all of your unselfish service to your Nation. It is a better world because you have done it and we wish you well whatever you decide to do.

General Welch. Thank you.

Mr. Murtha. Your biography will be made part of the record, Mr. Secretary. Please summarize your statement.

Summary Statement of Secretary Rice

Secretary Rice. Thank you, Mr. Chairman.

I certainly appreciate your good opening remarks and we will pass along your compliments to the folks at Wilford Hall and certainly keep in mind the other matters you mentioned, as well as look forward to continuing to work with you on the advanced fighter.

Mr. McDade, I would like to add that one of the great benefits I have had in coming into this position has been General Welch's service as Chief of Staff. I would like to echo what you said.

Mr. Chairman, as you have commented, we have a prepared statement. I would like to ask that that be put into the record.

Mr. Murtha. Without objection.

Secretary Rice. It lays out a framework that we intend to use as we work with you to build a force that meets our national security needs in the future while responding to the realities of a changing

world, and I hope that all the members of the Committee will have an opportunity to read it when time permits and we will continue to provide you updates on our thinking as we develop our vision of the future Air Force.

FISCAL YEAR 1991 DEFENSE BUDGET

At this time, I would just like to highlight some budget figures that I think offer a universal perspective for the discussion this morning.

The Air Force has already begun adjusting to the changing realities. The proposed Air Force budget for fiscal year 1991 is reduced 23 percent in real terms at the peak level in fiscal year 1985; 6.6 percent of that reduction occurring in fiscal year 1990 and 1991. These are real cuts I am talking about now, after adjustment for inflation.

The Air Force investment account has been cut 29 percent from the fiscal year 1985 peak through fiscal year 1991. Seven-and-one-half percent of that real cut occurred in the two years fiscal year 1990 and 1991. They are significant reductions and we understand that more will be following.

DEFENSE MANAGEMENT REVIEW INITIATIVES

I want to emphasize the criticality of pursuing those reductions in a logical and coherent manner. We have been pursuing efficiency in the Air Force aggressively. You have seen our reports on the Defense Management Review Initiatives. We believe they will provide anticipated savings of $10.9 billion through fiscal year 1995 from the previous program that had been laid in.

The additional Air Force base closure candidates announced recently for study would provide $1.8 billion of net savings through fiscal year 1995, more, by the way, than the total Base Closure Commission package results for the same time period—that base closure package would lead to annual savings of $560 million a year after fiscal year 1995. That is more than 80 percent of the results of the Base Closure Commission package.

SUMMARY

As we begin this important work in this season with you today, you have our pledge that we will work with you to develop the defense capabilities that our Nation needs. The future world is going to demand carefully crafted force plans developed in a complimentary way across the services exploiting each service's most effective attributes.

The Air Force will be focused on those inherent characteristics of air power, speed, range, flexibility, precision, and lethality which make it a responsive instrument of U.S. national security. We look forward to an extensive dialogue with you as we proceed to develop these plans and turn this vision into reality together.

Let me stop with those brief comments. General Welch has a comment or two as well.

Mr. MURTHA. General Welch.

SUMMARY STATEMENT OF GENERAL WELCH

General WELCH. I would just emphasize a couple of points very briefly. The Secretary has pointed out that the Air Force budget that is before you takes into account the change in the international situation that we all see unfolding daily.

REDUCTION IN FORCE

We see two essential goals. It is very difficult at this time to define how much is enough in terms of force size. We recognize the force will get smaller. It is also clear though that whatever size force we have, it has to be a modern force capable of serving wherever it needs to serve around the world.

So to that end, we feel it is essential that we maintain the readiness of whatever size force we have and essential that we keep at least the minimum core modernization programs on track. Those fall into two categories. One is adequate strategic nuclear deterrent forces. I am sure there will be discussion of that. The other is conventional forces.

ADVANCED TACTICAL FIGHTER

It is important, I think, to recognize that in the conventional forces area, we have pared down our proposals to virtually a single modernization program in each key mission area. For example, in the air superiority area, the Air Force and the Navy have relied on the F-15 and F-14 since their introduction in 1974.

We have a single modernization program for both services to provide the replacement for both airplanes: the advanced tactical fighter. If we field that airplane on the current schedule, the first squadron will be fielded in the late nineties. By that time, both airplanes would have been serving in that role for 25 years.

The fact that we could modify and upgrade that airplane to cover the most difficult mission for 25 years is a testimony to the design of those two airplanes, but you simply can't stretch that capability beyond that. So we have a single program for both services to cover that requirement.

We have a similar situation in the deep interdiction airplane. The Navy and Air Force A-12 is a single airplane to cover that mission area, to modernize in that mission area for both Services. You see the same thing in airlift. We have a single airlift modernization program in order to ensure that we have the vital strategic airlift capability to respond wherever we need to respond. In each case, emphasis is on providing the quality that would be needed wherever we have to go in the world to support U.S. interests.

SUMMARY

So my point is a straightforward one. We have, since 1985, been adjusting to a declining defense budget and to a changing world situation. We foresee a continuing glide slope for the defense budget for some years to come, and we are adjusting to that in 1991 and beyond.

It is also equally clear though that if we are to make a successful long-lasting adjustment, it has to be the result of a deliberate, care-

ful planning process, and we can't afford a helter-skelter response to immediate impressions of what is going on in the world. So we are pleased to discuss all these issues with the Committee this morning. I look forward to your questions, sir.

[CLERK'S NOTE.—The joint opening statement of Secretary Rice and General Welch follows. The Fiscal Year 1991 Air Force Joint Posture Statement is printed at the end of this hearing. See page 323.]

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

HOUSE OF REPRESENTATIVES

SUBJECT: FY 91 AIR FORCE POSTURE

STATEMENT OF: THE HONORABLE DONALD B. RICE
SECRETARY OF THE AIR FORCE

GENERAL LARRY D. WELCH
Chief of Staff
United States Air Force

February 1990

Not for Publication Until Released
by the Committee on Appropriations
United States House of Representatives

Biography

United States Air Force

Secretary of the Air Force, Office of Public Affairs, Washington, D.C. 20330-1000

DR. DONALD B. RICE

Donald B. Rice is Secretary of the Air Force.

Dr. Rice was born June 4, 1939, in Frederick, Md. He earned a bachelor of science degree in chemical engineering from the University of Notre Dame in 1961, a master's degree in industrial management in 1962, and a doctorate in economics in 1965, both from Purdue University. He was awarded two honorary degrees: doctor of engineering by Notre Dame in 1975 and doctor of management by Purdue in 1985.

In April 1972 Dr. Rice became president and chief executive officer of The RAND Corp., an independent, nonprofit, public service institution which conducts research and analysis on problems of national security and domestic affairs, and doctoral degree programs in several fields of public policy. He served in that capacity until May 1989, resigning to accept appointment by President Bush as Air Force Secretary.

From September 1970 to April 1972 he served as assistant director in the Office of Management and Budget, Executive Office of the President, Washington, D.C. He was responsible for budgeting, program analysis and management improvement activities in the areas of agriculture, atomic energy, commerce, energy, environment, natural resources, public works, science and technology, space and transportation.

From February 1969 to September 1970 he served as deputy assistant secretary of defense for resource analysis. He was responsible for analysis of cost, manpower and logistics requirements, preparation of fiscal guidance issued by the secretary to the military services and the coordination of DOD's program and budget planning with the National Security Council. He had served as director of cost analysis in the Office of the Secretary of Defense from June 1967.

He was commissioned as a second lieutenant in the U.S. Army Ordnance Corps upon graduation from Notre Dame in June 1961. From June 1965 to June 1967 he served on active duty as first lieutenant and then captain in the U.S. Army. During that time, he was assistant professor of management and acting deputy director for academics at the Navy Management Systems Center, Naval Postgraduate School, Monterey, Calif.

From 1975 to 1977 he was appointed by the President to serve as chairman of the National Commission on Supplies and Shortages. He then was requested by the President to direct a resources management review for the secretary of defense, which he conducted from 1977 to 1979. From 1974 to 1986 he served two terms on the National Science Board.

He assumed his present position as Secretary of the Air Force in May 1989.

Dr. Rice has published articles, reports and papers dealing with economic policy, government organization and budgeting, defense resources management, energy systems, strategic capabilities and arms control, regulatory problems, and analytical techniques.

(Current as of May 1989)

He was awarded the Secretary of Defense Meritorious Civilian Service Award in September 1970. He also was a Ford Foundation fellow.

Dr. Rice is married to the former Susan Fitzgerald of Evanston, Ill. They have three sons: Donald B. III, Joseph J. and Matthew F.

Biography

United States Air Force

Secretary of the Air Force, Office of Public Affairs, Washington, D.C. 20330-1000

GENERAL LARRY D. WELCH

General Larry D. Welch is chief of staff of the U.S. Air Force, Washington, D.C. As chief, he serves as the senior uniformed Air Force officer responsible for the organization, training and equipage of a combined active duty, Guard, Reserve and civilian force of nearly 1 million people serving at approximately 3,000 locations in the United States and overseas. As a member of the Joint Chiefs of Staff, he and the other service chiefs function as military advisers to the secretary of defense, National Security Council and the president.

General Welch was born June 9, 1934, in Guymon, Okla., and graduated from Liberal (Kan.) High School in 1952. He received a bachelor of arts degree in business administration from the University of Maryland and a master of science degree in international relations from George Washington University, Washington, D.C. The general completed the Armed Forces Staff College at Norfolk, Va., in 1967 and the National War College at Fort Lesley J. McNair, Washington, D.C., in 1972.

He enlisted in the Kansas National Guard in October 1951, serving with the 161st Armored Field Artillery until he enlisted in the U.S. Air Force. In November 1953 he entered the aviation cadet program and received his pilot wings and commission as a second lieutenant. He served initially as a flight instructor until his assignment in July 1958 to Headquarters Air Training Command, Randolph Air Force Base, Texas.

General Welch then served in tactical fighter units in Europe, the continental United States and Alaska before transferring to the Republic of Vietnam where he flew combat missions in F-4C's over North and South Vietnam, and Laos.

After completing the Armed Forces Staff College in July 1967, he was assigned to Headquarters U.S. Air Force, Washington, D.C., under the assistant chief of staff for studies and analysis. Upon graduation from the National War College in July 1972, he was assigned to Tactical Air Command, where he served in wing deputy commander for operations, vice commander and wing commander positions.

In August 1977 he transferred to Headquarters Tactical Air Command where he served as inspector general, deputy chief of staff for plans and deputy chief of staff for operations. In June 1981 he became commander of the 9th Air Force and Air Force component commander for the Rapid Deployment Joint Task Force. In November 1982 he was assigned as deputy chief of staff for programs and resources at Air Force headquarters and became vice chief of staff of the U.S. Air Force in July 1984. From August 1985 to June 1986 he served as commander in chief, Strategic Air Command, and director, Joint Strategic Target Planning Staff, Offutt Air Force Base, Neb. He assumed his present duties in July 1986.

The general is a command pilot with more than 6,500 flying hours. His military decorations and awards include the Defense Distinguished Service Medal with oak leaf cluster, Distinguished Service Medal with oak leaf

(Current as of May 1989)

cluster, Legion of Merit with oak leaf cluster, Distinguished Flying Cross, Meritorious Service Medal, Air Medal with six oak leaf clusters, Air Force Commendation Medal with two oak leaf clusters, Joint Meritorious Unit Award and Air Force Outstanding Unit Award with "V" device and two oak leaf clusters.

He was promoted to general Aug. 1, 1984, with same date of rank.

General Welch is married to the former Eunice Ellis of Liberal, Kan. They have three sons, Brian E., Stewart R. and Paul A., and one daughter, Leslie A.

MR CHAIRMAN AND MEMBERS OF THE COMMITTEE

In light of all the changes taking place in the world, we must revise the basis for planning U.S. military capability. As we do that, it is useful to remind ourselves that the basic mission of the United States Air Force remains to organize, train, equip, provide, and support aerospace forces to deter aggression and, if necessary, defeat aggressors across the spectrum of conflict. This supports the most fundamental national security objective of the United States, the preservation of our free and independent nation with its institutions and values intact.

A number of dynamic and rapidly changing factors are creating a significantly different world environment as we approach the 21st Century. A prominent characteristic of the world in the 1990s and beyond may well be instability. While the Soviets appear to be shifting their focus toward addressing long-standing internal economic, political, and societal problems, they will retain a significant military capability, both nuclear and conventional. Despite some initial reductions, Soviet military capabilities built up during 20 years of relentless growth in Soviet defense spending still remain. Soviet policy declarations reflect changes in intentions, but contain no guarantee of irreversibility.

We will also face security challenges in other, even less predictable areas around the world. The United States has important security objectives in the developing world: promoting freedom and democracy; protecting key strategic resources, choke points, and overflight areas; nurturing defense commitments and security relationships; and stopping the flow of drugs into our nation. The continued spread of sophisticated weapons--nuclear weapons, ballistic missiles, advanced tactical aircraft, modern tanks, and cruise missiles--enable a wide variety of states to pose potentially dangerous threats to U.S. security or that of our security partners.

The combination of continued threats to America's national security interests, the proliferation of sophisticated weapons, and reduced numbers of overseas U.S. forces in this unstable world presents new challenges for the U.S. military. The likelihood that the U.S. military will be called upon at some time and place to defend U.S. interests in a lethal environment is high--but now, more than ever, the time and place are difficult to predict.

In structuring our forces to support the national military strategy, we can neither adopt the unrealistic assumption that nothing has changed, nor the historically naive presumption that everything has changed. Indeed, the heartening changes we see in the Soviet Union and Eastern Europe reflect the success of our policies. The national military strategy continues to emphasize deterrence--combining forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives, while providing for a coherent, cost-effective development of military forces.

The maintenance of a stable nuclear balance *vis a vis* the Soviet Union must remain paramount--only Soviet nuclear forces threaten our national survival. Conventional capabilities that provide a rapid, tailored response with a capability to apply force selectively, anywhere on the globe, will remain essential to keep local conflicts and tensions from spreading and threatening U.S. interests and allies. U.S. forces must be capable of hitting hard, precisely, and terminating conflict quickly in order to deter aggression or the threat of it. The requirement for these capabilities is not new, but the balance among them is shifting--reduced emphasis on combating heavy Soviet conventional forces and more attention to other global contingencies.

Given the unpredictability of the future, our force planning must call for an increased emphasis on force projection capabilities--a shift toward even more flexible, rapidly responding, precise, lethal forces with global reach. The Air Force's focus will be on emphasizing those inherent characteristics of airpower--speed, range, flexibility, precision, and lethality--which best support U.S. national security in the uncertain world of the 1990s and beyond. Our planning will be conducted in complementary fashion with that of the Army and Navy.

Adapting the Air Force to the changing world environment has forced some difficult choices in the balance of investments in four major areas: readiness, modernization, combat sustainability, and force structure. The Air Force of the future will feature high readiness forces that emphasize well-trained, quality personnel and high-quality systems. To afford these priorities, we will be forced to make painful reductions in force structure and sustainability. In relative terms, the Air Force will be more CONUS-based, with a smaller and more efficient base structure at home and abroad. It will be more reliant on Reserve components.

While sustaining stable, nuclear deterrence, the emerging Air Force will provide unmatched capabilities in extending U.S. global reach and the ability to respond rapidly to fast developing conventional crises. Missiles and bombers will continue to support nuclear deterrence; bombers, the most flexible leg of the nuclear Triad, will concurrently provide highly responsive conventional power projection capabilities world-wide. Our rapidly deployable tactical airpower can provide air assets for combined, joint, or independent operations with U.S./allied forces. Airlift provides timely global reach to all the Services; tankers enhance not only mobility, but the combat potential of the Services and our allies. Space assets provide communications and information for situational awareness across the planet.

The United States has become an aerospace nation and aerospace power will become increasingly important in the decades to come. Aerospace represents the cutting edge of advanced technology and a vital element of our economic fabric. The future Air Force will exploit those capabilities to maintain technological superiority through a broad, balanced science and technology program that strengthens the industrial base and forms the foundation of our future military capability. Prudent investment in advanced technology will enable the United States to avoid strategic surprise should the Soviets revert to a more hostile stance and provide the capabilities needed to intervene decisively with minimal casualties against potential well-equipped foes.

Today's Air Force is more capable than at any other time in history. Nevertheless, five consecutive years of defense budget reductions and the prospect for further substantial cuts will constrain our future capability. The proposed Air Force budget for FY 91 is reduced 23.3 percent in real terms from the FY 85 peak, with 6.6 percent occurring in the two years of FY 90 and FY 91. The Air Force investment account (including RDT&E and MILCON) has been cut 29 percent from FY 85 to FY 91, with 7.5 percent of that in the FY 90 and FY 91 years. Defense Management Review (DMR) initiatives will help offset the impact of declining budgets by reducing the cost of modernizing, operating, and maintaining the Air Force. DMR is already expected to provide an estimated $10.9 billion in savings for the Air Force through FY 95 from streamlining acquisition activities and from logistical, operational, and training efficiencies.

The additional Air Force base closure candidates announced for study would provide an estimated $1.8 billion of net savings through FY 95, more than the total Base Closure Commission (BCC) results for the same time period, and $560.0 million in annual savings after FY 95, more than 80 percent of the total BCC results.

To maintain essential capabilities, we will seek to leverage all our investments. First, to maximize the readiness of existing forces, we will continue to focus on spares, support equipment, munitions, and training programs--the same things that have allowed us to generate almost 80 percent more tactical combat sorties than we could in 1980 and which have put the readiness of our bomber force at an all-time high. Second, we will improve existing systems with cost-effective modifications and upgrades. Examples include B-1B SRAM II integration, KC-135 re-engining, adding multipoint refueling capabilities to the KC-10, and F-16 engine upgrades, all of which provide significant increases in performance and durability for the existing force structure. Third, we will leverage our investment by developing new systems, taking advantage of U.S. technological superiority to meet long-term challenges. The B-2, C-17, and Advanced Tactical Fighter (ATF) are examples of this approach. We cannot afford to abandon current development efforts which are required to meet our national security objectives of the coming decades.

Our People

Recruiting, retaining, motivating, and training quality people will challenge the Air Force throughout the new decade. The value of our people is intrinsic to all of our readiness, modernization, combat sustainability, and force structure decisions. Because fiscal realities have forced us to make concessions in the size and composition of our force, we must ensure that we continue to recruit and retain the best and the brightest. The Air Force depends on the quality and commitment of the Active, Guard, Reserve, and civilian men and women who guarantee our national security.

The Air Force continues to meet successfully its enlisted and line officer recruiting goals, for both quality and quantity. However, we continue to experience major difficulty retaining pilots and physicians. In these changing times, we cannot relax our efforts to provide a competitive compensation package for all of our military personnel. This includes adequate pay and allowances, satisfactory government quarters or housing allowances, full permanent change-of-station reimbursements, quality health care, and other quality of life benefits.

Over the past years, both the Air Force and Congress have worked on possible solutions to the pilot retention problem. The FY 90 Authorization Act implemented the Aviation Career Improvement Act of 1989, a comprehensive package which addresses this issue for the Air Force and the Navy. The Air Force welcomes the majority of the provisions in the act and is presently assessing their impact on retention.

Congressional action and the FY 90 Gramm-Rudman-Hollings sequester have forced the Air Force to reduce overall end strength without an associated adjustment to our mission, resulting in undermanning in field units. Furthermore, since we could not meet the Gramm-Rudman targets using only manpower reductions, other money-saving measures have been implemented. The programmed military end strengths for FY 90 and FY 91 are now 567,900 and 530,000, respectively. This FY 91 end strength will be 78,000 lower than FY 86, 41,000 of that in FY 90 and FY 91. The programmed civilian end strengths for FY 90 and FY 91 are 262,354 and 258,741, respectively.

Readiness and Sustainability

Building and maintaining readiness and combat sustainability are ongoing processes, always undergoing evaluation and requiring a prudent balance among various spending areas to achieve realistic goals. We place a high priority on improving the combat readiness, as well as the staying power, of our forces. With

the improved quality and realism of operational training programs such as Red Flag, we continue to increase the readiness of our operational crews. Major exercises and deployments of Active, Guard, and Reserve units to overseas operating bases provide operations and maintenance specialists realistic exercises in the environment in which they would fight. Improved training and more realistic experience continue to produce safety records considerably better than those achieved in the mid-to-late 1970s. Consistent with our strategy, we configure Reserve Component forces to ensure their effective engagement in global conflict within days to weeks from the development of a crisis. Active duty forces, of course, provide necessary combat capability day-to-day.

To provide sufficient combat sustainability, adequate spares, supplies, munitions, and fuel must be available to support expected operation tempos and probable periods of conflict. Adequate stocks, support infrastructure, war reserve material, and the industrial base must be prepared during peacetime. We continue to strive to improve industrial base capabilities, but this effort is constrained by budgetary considerations. The Air Force continues to work with all Department of Defense (DOD) and national agencies to offset the effect of budget reductions. Whenever possible, our acquisition policy provides incentives for the industrial base to sustain the logistics support of our forces. The Air Force will continue to strive to maintain peacetime spare parts stocks, procure adequate levels of wartime spares and equipment, perform critical aircraft modifications, improve the industrial base, and increase our sortie generation capability within the constraints of fiscal policy.

Strategic Forces

Strategic forces provide nuclear deterrence, worldwide conventional power projection, and strategic defense across all levels of conflict. While the prospects for a Strategic Arms Reduction Talks (START) agreement are high, the Soviets have continued unabated a modernization of all components of their strategic offensive forces that could be retained under START limits. Therefore, we must structure our forces to be adaptable to the probable constraints and needs of the post-START era while maintaining deterrence in the face of evolving capabilities that continue to threaten our existence. Given this requirement, we must continue the phased modernization program laid out by the President for U.S. strategic forces.

In practice, an enemy's belief in our deterrent capabilities is based on his perception that we have both the forces and the will to carry out a devastating retaliatory strike. The strategic Triad of manned bombers, intercontinental ballistic missiles (ICBM), and sea-launched ballistic missiles (SLBM) is the foundation of this perception. Individually, no leg of the Triad represents an ultimate capability or deterrent solution; collectively, they complicate enemy attack planning, denying any chance of a successful debilitating strike. The Triad provides a high confidence barrier against technological breakthroughs, system failures, communication limitations, and unforeseeable "fog of war" factors. In short, the Triad ensures sufficient U.S. forces survive an enemy attack to successfully retaliate against an aggressor, thus effectively deterring a nuclear attack.

ICBMs are the most responsive element of the strategic Triad, combining accuracy and high daily alert rates to hold time-urgent, hardened, Soviet warfighting assets at risk. The foundation of our ICBM modernization programs is the Peacekeeper missile. Full operational capability for the first 50 Peacekeeper missiles in existing silos was achieved on schedule in December 1988, and the FY 91 Budget continues development of the rail garrison basing mode. Current plans are to deploy the 50 operational Peacekeepers at 7 garrison locations. Deploying the Peacekeeper day-to-day in secure areas and dispersing it when in the national interest to do so will diversify our strategic forces, while its survivability will

enhance deterrence and promote stability. The development of the Small ICBM (SICBM) will continue toward an operational deployment in the late 1990s. This missile's survivability and inherent operational flexibility make it the obvious next step in enhancing strategic stability and deterring nuclear war.

Bomber modernization, through deployment of the B-1B and B-2 penetrating bombers and transition of the B-52H force to a standoff cruise missile role, will counter existing and projected Soviet air defense improvements. Each aircraft has an essential and diverse mission. Cruise missiles launched from outside defended areas, B-1Bs penetrating at low altitude and high speed, and B-2s penetrating at high and low altitudes will severely stress the Soviet air defense system.

The final B-1B was delivered ahead of schedule in April 1988. Since then, flight test activities have revealed deficiencies in the basic design of the defensive avionics system. The Air Force is proceeding with a two-tiered recovery plan which will correct these deficiencies and field a stand-alone radar warning receiver.

The contributions of the bomber force--and the B-2 in particular--to the Triad will increase in the future. Without the B-2, the bomber force would atrophy, thus depriving us of its unique attributes. Bombers enhance the survivability of land-based strategic forces and offer a unique capability not shared by current ICBM or SLBM forces for signalling U.S. resolve in a crisis. The B-2 provides the best combination of accuracy and weapon yield of any current or projected system in the Triad. Together with greatly increased "look before shoot" capability compared to other bombers, this makes the B-2 the most efficient and effective system for dealing with both very hard and area targets. Manned bombers are regarded by both the United States and Soviet Union as systems that enhance the stability of the strategic balance, because they provide an assured retaliatory capability without posing a first-strike threat. Due to the bomber counting rule under START, the penetrating bomber provides the means to assure adequate target coverage--thus the B-2 is the key to long-term military sufficiency under START and a bulwark of the current U.S. negotiating position. The B-2's capabilities will ensure the continued viability of a balanced nuclear Triad for decades to come.

The B-2 program is currently in its flight test phase. The first aircraft flew in July 1989, and the test plan has continued on schedule. We have completed the first phase of the flight test program, logging more than 31 flight hours on eight test flights. The test program has been an unqualified success to date. The development cost of the B-2 has been substantially higher than the B-1B, reflecting the major technological advances involved; however, the production cost is expected to be only modestly higher, in constant dollars. To give this cost issue some perspective, the contribution of the B-2 to the strategic Triad should be considered. In terms of acquisition cost per generated warhead, the B-2 cost is similar to the B-1B.

Cost comparisons between elements of the nuclear Triad, however, cannot account for the unique flexibility for power projection offered by the manned bomber. Long-range bombers, staging from secure bases, can reach any location on the globe within hours, employing only a single aerial refueling. These bombers can deliver dramatic firepower with precision accuracy. In a notional Southwest Asia scenario, a squadron of conventional bombers could be projecting power and enhancing presence in a very short time (and at lower cost relative to other options). The B-2's survivability and range will enable it to operate with fewer supporting aircraft (defense suppression, air superiority, etc.) than required for a strike package using non-stealth aircraft.

Tactical Forces

With the continued support of Congress, our tactical air forces must remain a highly capable, modern, and ready force. They must be ready to respond to technologically improved threats, not only in Europe, but anywhere on the globe. To meet this challenge in an era of constrained funding, we will begin reducing our fighter force structure in FY 91. We will partially offset the reduced force structure by modifying current inventory aircraft to increase capability, maintainability, and service life. We are also developing future weapon systems with a close eye on procurement, operating, and support costs to provide an effective but affordable force. Through modification programs and cost control measures such as these, we are leveraging our investments, enabling us to field a ready and capable tactical force.

Two high-priority programs--ATF and the Advanced Medium-Range Air-to-Air Missile (AMRAAM)--are required to maintain a technological lead in order to achieve air superiority. Since the advent of modern airpower, no major surface operation has ever succeeded without air superiority. The ATF will incorporate low-observable technology, supersonic cruise and maneuver, and advanced avionics to yield lethality and survivability required to meet future threat systems. The ATF's planned initial operational capability (IOC) is in the late 1990s. The AMRAAM, now in low-rate production, is undergoing an extensive test program. The test program is scheduled for completion in time to support a full-rate production decision later this year. This missile with improved resistance to electronic countermeasures (ECM) will provide a launch-and-maneuver, multiple-kills-per-engagement capability necessary to combat advanced threats while sustaining minimal losses.

Modernization efforts continue in ground attack forces as well. The F-15E reached IOC in 1989, an important step toward filling urgently required all-weather deep penetration capability. The LANTIRN navigation/targeting system also reached IOC in 1989, enabling F-15Es and F-16C/Ds to conduct night surface attack interdiction missions. This capability will deny any adversary's forces the sanctuary of the night, reduce attrition, and increase the effectiveness of our surface attack operations.

The Air Force also actively supports the Navy A-12 development program and has programmed funds for the development and production of an Air Force variant, the Advanced Tactical Aircraft (ATA). Projected target and threat characteristics by the year 2000 dictate our requirement for a greatly improved surface attack aircraft. The ATA will satisfy this need.

The Air Force has requested funds to procure 150 multi-role F-16s in FY 91. This aircraft provides a solid example of the strength of the Air Force's approach to building combat capability: its mission-capable rate is above 85 percent, and the F-16s now being procured will enjoy night/under-the-weather attack and all-weather air superiority capabilities.

The Air Force places a high priority on close air support/battlefield air interdiction (CAS/BAI). The A-7D and A-10A, are unable to meet the Joint Force Commanders' requirement for CAS/BAI in the mid 1990s and beyond. Therefore, we have funded interim programs to modify 225 A-10s and 146 Block 30 F-16s with improvements that enhance their CAS/BAI capability. However, these are interim solutions until a follow-on aircraft with the flexibility and capability to conduct battlefield air attack over the modern battlefield is selected and fielded.

Mobility Forces

Strategic airlift provides the United States with the capability to project influence and forces quickly and decisively throughout the world, a capability of increasing importance as we reduce our forward deployment posture and global instability and uncertainty remain. Their ability to carry troops and/or cargo, air refuel, and airland or airdrop their loads reduces dependence on forward-basing, while retaining the ability to meet almost any military or civil requirement. Clearly strategic airlift is a national asset whether employed in support of military operations such as Just Cause in Panama, or as part of humanitarian efforts providing relief following natural disasters such as Hurricane Hugo.

The effective and efficient movement of forces requires achieving a balance between airlift, sealift, and prepositioning. Given the magnitude of force withdrawals under consideration (in several areas, not just Europe) and the scope of the uncertainty we face in unpredictable areas around the world, airlift and sealift must be viewed as complementary. While increased warning time for a European conflict may allow us to use more sealift to return forces to Europe, it does not obviate the need for airlift. Increased warning time does not necessarily produce a corresponding increase in reaction time. As uncertainty and instability around the world increase, the ability to respond quickly becomes even more important.

Airlift provides vital speed, flexibility, and timeliness. When an operation needs to be carried out quickly--as was determined necessary for Just Cause--airlift will be the key player. Yet we cannot be complacent that our ability to execute quickly to Panama tells the whole story. For Just Cause we had a highly developed infrastructure in theater, over half the forces in place, deploying forces that travelled lightly--even for light forces--and a destination that was relatively close. Next time, the challenge may be tougher, but the requirement for timeliness will be just as great. The 1973 Arab-Israeli War provides an example of the importance of timeliness, particularly for our more uncertain future world. Sealift delivered 74 percent of the total resupply of Israel--but the war was over five days before the first ship arrived. The key to airlift's critical contribution to the Israeli success was not Millions of Ton Miles/Day, but delivery of key assets when they were critical to the fight.

The C-17 is vital to modernizing and expanding the nation's airlift capabilities. The C-17 will assume the responsibility as our primary strategic airlift aircraft when fully operational--a role currently filled by the aging C-141, which is approaching the end of its service life. The C-17 offers much lower support costs than either the C-141 or C-5 and combines the advantages of a strategic airlifter--range, speed, aerial refueling, and payload--with those of a tactical airlifter--short field landing and take-off capability, survivability, maneuverability in the air and on the ground, and precise, prompt delivery. The advantages this affords can be seen using 1983 airlift support missions to Honduras as an example. Two C-5s and 32 C-141s delivered cargo to the only airfield in the country capable of supporting these strategic airlifters and an additional 232 C-130 sorties were needed to transfer this material to smaller airfields closer to employment locations. Using the C-17 to deliver cargo from the United States directly to the smaller airfields would only have required 19 aircraft.

Our tanker fleet will also become of increased importance to support the global reach and combat capability of all the Services. Air Force tankers provide the capability to refuel Air Force, Navy, Marine, and many allied aircraft leveraging all Service capabilities on land, sea, and in the air. Aerial refueling increases the range, loiter times, and ordnance capabilities of receiving aircraft--true force multiplication. To bolster our refueling capabilities, we are continuing to re-engine

KC-135s (which enhances KC-135 fuel offload potential and reduces annual operating costs) and are adding multipoint capabilities (that is, the capability to refuel more than one aircraft at the same time) to elements of the KC-10 fleet. Multipoint refueling multiplies the effectiveness of tankers providing assistance to the Navy and Marine Corps as well as our allies.

Space

U.S. military space capabilities contribute to our deterrence strategy in a variety of ways. Satellite early warning capabilities warn of Soviet space and missile launches, prevent surprise attack, and allow the United States to determine the appropriate response to Soviet actions. Space surveillance systems track, categorize, and assess the capabilities of all space objects. Space-based communication systems, such as Air Force Satellite Communications (AFSATCOM), the Defense Satellite Communications System (DSCS), and in the future, Milstar, ensure effective, rapid communications with U.S. strategic and tactical forces throughout the world. Other capabilities like the Global Positioning System (GPS) and Defense Meteorological Satellite Program (DMSP) enhance the effectiveness of our forces by providing navigation and environmental monitoring information, respectively. Finally, space systems also contribute to arms control by providing monitoring capabilities that enable us to confidently enter into verifiable agreements.

The U.S. satellite payload schedule was delayed in the late 1980s due to the Shuttle and Titan accidents. This on-orbit capability in space is essential to our national security. The Air Force scheduled recovery launch rate peaks at approximately 25 in 1990, but we will not be able to launch all of the backlog of satellites until 1992.

The Advanced Launch System (ALS), a joint DOD-NASA program, had been identified as our future national space launch capability. Recent fiscal restructuring during the FY 91 Budget development required the Air Force to defer the initiation of FSD of an ALS vehicle, but technology development will continue under the Advanced Launch Technology program, intended to transfer technology to the existing boosters and lay the basis for future development of a new vehicle.

The National Aero-Space Plane (NASP) is also a joint DOD-NASA undertaking. The Air Force has program management responsibilities for the NASP. The program will develop the technologies needed to allow a decision on whether to develop a classic X-vehicle that would demonstrate the capability of single-stage-to-orbit with horizontal takeoff and landing and long-range hypersonic cruise.

Conclusion

The FY 91 Budget marks a year of transition. The Air Force has developed a program that will sustain a high level of readiness while permitting us to continue priority modernization programs. Overall, the FY 91 Budget will also position the Air Force to realize significant future cost savings through post-FY 91 reductions in force structure and forward basing. But the Air Force's focus is on evolving U.S. national security needs--not simply on fiscal constraints, though they too are real. The Air Force is building a force with agile and responsive capabilities tailored for the world we see unfolding before us. We will continue developing these capabilities in the 1992 POM and beyond, planning the "pieces" of our Air Force to complement each other and the forces of the other Services, while creating optimum power under a wide variety of possible circumstances.

The Air Force possesses unique capabilities which must be harnessed, along with those of the other Services, to address the exigencies of evolving national security policy. We see a window of opportunity to make ourselves more useful to the Nation. With the Air Force's global reach and rapid reaction, we are prepared to meet the challenges of the future.

FORCE LEVELS IN EUROPE

Mr. MURTHA. I appreciate what you are saying, General Welch, because there was a time—you remember it and so does the subcommittee—when we had a hollow force and we had lack of spare parts and readiness. Every time you went out to the field, you had nothing but complaints about the things available to the people and they obviously understood that they were in no position to be committed at any time.

As a matter of fact, in Panama, one young fellow said to me, "My last day of training was my first day of battle." We have to continually keep that in mind. We are going to finally reduce to 225,000 troops in Europe. How many Air Force personnel will remain in Europe?

General WELCH. That has yet to be decided and we will, of course, rely very heavily on the local commander, General Galvin, on exactly how to separate all of that out.

But it looks as though the ratio will not be greatly different than what you see today.

Mr. MURTHA. So you would have about the same ratio. I think we can give you some guidance. I would assume this not only will be a drawback, it will be a drawdown.

General WELCH. Yes.

Mr. MURTHA. And I am predicting it will be around 100,000 troops overall reduction from the forces this year. I know that is going to be a difficult thing and I have talked to Secretary Cheney about it, but I don't see where we can get the money in order to get this budget together unless we reduce that because of the outlay savings we have in reducing forces.

My advice is that as you are going along, you slow down sending people to Europe and, of course, slow down the recruiting at the same time. I know it is a delicate balance that you run into, but I feel that in the end that is going to be somewhere near that figure.

Secretary RICE. Mr. Chairman, if I could comment on that for a minute. The Air Force plans that you have before you for the fiscal year 1991 budget include reductions in end strength of 26,000 in fiscal year 1990, the year we are currently in, and another 15,000 in fiscal year 1991.

We have quite consciously in the Air Force leaned forward on bringing the strength down, doing more in 1990 than we might otherwise have had to do because we are concerned that we be able to take the force down on a managed glide slope, recognizing that the all-volunteer force is a very difficult matter than we have had in previous drawdowns, after Vietnam and after Korea, when we had a heavily draftee force.

So we are very concerned that part of retaining the kind of quality force that you and General Welch were just talking about means that we have to manage carefully how we draw down that force. We have a lot of commitments out there that we want to be careful not to renege on.

They are good people in the service. I understand what you are saying about the relationship between personnel and outlays, but I did want to get on the record the fact that the Air Force is leaning forward already and we will be taking 41,000 people down in 1990

and 1991 and that will be a total, I believe, of around 78,000 down from the peak Air Force manning level back in 1986.

Mr. MURTHA. Have you reduced any senior officers—for instance, the Army had to select out 300. Have you had to do the same thing?

General WELCH. Yes, we have.

You mentioned the recruiting. We have taken off both ends. For example, we had planned to recruit 54,000 in 1990. We will now recruit around 36,000. You will see a similar reduction in 1991. The original plan was to recruit 52,000 and we will be down to 36,000 in 1991.

We also had the Selective Early Retirement Board for both lieutenant colonels and colonels last year. The law is such that you can only do that once every five years for any given individual, so we don't see the need at this time to do that this year. We will probably have to do it again next year.

We are also doing things in the enlisted force. As we reduce the input at the bottom, there is a tendency then to become top heavy in the enlisted force, so we are introducing some new approaches that will encourage more flow out the top end of the enlisted force. We have to do those kinds of things in a drawdown in order to maintain any kind of balance.

It is those considerations that limit how rapidly you can draw down and still have a force that makes any sense. It is interesting that we are sitting here discussing not whether or not we should draw down, but how to do it in a sensible way that doesn't shatter the force. We agree on that.

Mr. MURTHA. Are you able to delay people being sent to Europe and at the same time extend people to work that out? Have you been looking at that alternative?

General WELCH. We are doing both.

I don't want to give the number in a open session. We are intentionally undermanning and we are, in order to reduce PCS costs and others, going to great lengths to encourage extensions and are having considerable success on both fronts.

Mr. MURTHA. How many have you selected out? What is the number on the senior officers?

General WELCH. About the same number you described for the Army.

Let me get you that number.

[The information follows:]

In late November 1988, the Air Force conducted a Selective Early Retirement Board. As a result, 377 senior officers were selected for early retirement.

Mr. MURTHA. Mr. McDade?

REVIEW OF ACQUISITION PROGRAMS

Mr. MCDADE. Thank you very much, Mr. Chairman.

Mr. Secretary, we have been put on notice—we and everybody else in the world—that four of the largest acquisition programs in the Department, including three under Air Force management—ATF, C–17, B–2, ATA—are under internal review until March 31 at which time we are going to get a report.

That is the way I understand it. Is that essentially your understanding of the situation, Mr. Secretary?

Secretary RICE. Mr. McDade, the Department is conducting a kind of zero-based review of all four of those programs.

The Air Force has the lead on three of them; the Navy on one, but the Air Force is a participant in all four and the Navy in two of them.

Those reviews are scheduled for the internal staff work to be done and the reports of that to the Secretary by the end of March.

I believe you should allow for some additional decision time for the Secretary beyond that, so I would think probably another month would be a more realistic estimate of when you should expect the Secretary to be ready to give you his recommendations as a result of those reviews.

Mr. MCDADE. I am led to understand by your answer that the Air Force is a full participant. It is not just OSD operating alone, but that the Air Force and the Navy as well, because of their common usage, is involved from start to finish. Is that accurate?

Secretary RICE. Yes, sir. The reviews are being led by an oversight group that John Betti chairs, the Under Secretary for Acquisition. The Service Secretary sits on that steering group as well, and we are, through our staffs, having full participation in all of the working groups that are conducting the review.

Mr. MCDADE. I expected that and I am encouraged to have it on the record. You indicated that you were doing a kind of a zero-sum game. Does that include, for example, anticipating or trying to anticipate shifts that might occur because of START negotiations or CFE negotiations?

Secretary RICE. The answer is yes in both cases. Of course, with respect to the—to those major aircraft reviews—we are looking both at START and CFE outcomes.

With respect to the development of our multi-year programs within the Department this year, we are effectively assuming for internal planning that there will be a START outcome along the general lines of what has been negotiated so far and that there will be a CFE agreement, so our out-year planning within the Department at least tentatively is based on presuming successful outcomes from those two sets of negotiations.

So as we put our so-called POM, Program Objective Memorandum, together in the Air Force for fiscal years 1991 to 1997, we will be assuming successful results from those two sets of negotiations, and that is going to be necessary to deal with the kind of reduced fiscal guidance under which we are preparing those POMs.

INTERCONTINENTAL BALLISTIC MISSILES

Mr. MCDADE. Once you get into that discussion, don't you also have to include the ICBMs in the package?

Are you doing anything? Is the Air Force looking at this budget and saying, "Well, if we assume a successful START, we want to do the following in the outyears with respect to the rail mobile and the Midgetman," for example?

Is that part of an ongoing process over at the Department?

Secretary RICE. Yes, sir, it certainly is.

Mr. McDade. Are you directing that, Mr. Secretary?

Secretary Rice. I am responsible for getting the Air Force program together to propose to the Secretary of Defense within the fiscal guidance that the Secretary has provided us and the overall strategy guidance.

Now, that overall guidance at this point, of course, would certainly still be consistent with the strategic modernization program that the President laid out last year.

So under our current planning, both of those programs that you referred to, Rail Garrison and Small ICBM, are part of that.

Mr. McDade. You are getting a lot of advice from a lot of people about how to do the START negotiations and some people are already making agreements.

For instance, there is a proposal on the table that we swap our rail mobile for theirs and kill both of them. I don't know whether that is going to happen in START or not, do you? Do you have a prediction for me?

Secretary Rice. If I were to make a prediction for you—and I will take that word literally—I will give you a personal prediction.

I do not think it is going to happen in START I. That does not seem to be the way the Administration is headed and certainly not the basis on which the negotiations are set out today, and at this time, we continue to plan on introducing mobility into the ICBM leg of the triad as the best way to add to stability of the strategic balance by, of course, increasing the survivability of the force.

Mr. McDade. But whatever the budget document before us says today, I take your answer to mean, however, that if something does happen at that negotiation, then we will see a lot of flexibility perhaps enter this whole budget?

Secretary Rice. I would certainly say that if there are agreements made to change the status of particular programs in the START process, we will make those adjustments.

B–2 BOMBER

Mr. McDade. The B–2 is being offered up for some advice to you about how you count B–2s. Under the original accords, the bomber, the B–2, was counted as one and there is a suggestion now, I think made by my colleague on the House Armed Services Committee, the Chairman, that you count it as four or five.

I haven't had an opportunity to investigate the validity and I would like to hear discussion from you about whether or not it ought to be one. He is arguing that you are not going to get 132 and the only way to have a flexible force, if I read his argument accurately, is to count the B–2 as a 4-unit ALCM carrier.

What is your reaction to the suggestion that the bomber be counted differently?

Secretary Rice. I think it is important to back up and remember how we got here and not get ourselves all wrapped up in new ideas that seem to have been developed for short-run budgetary purposes rather than long-run strategic balance, strategic stability purposes.

We got where we are today because both sides—and remember this is a two-sided process—both sides recognize the penetrating

bomber as the most stabilizing element of the overall strategic nuclear balance.

The Soviets agreed to a very different basis for counting penetrating bombers, as compared to the basis for counting cruise missile carriers, because they share that perception and obviously have a different perception about cruise missile carriers.

So we think the START negotiations are grounded appropriately in a correct reading of the way to—the way that different systems within the overall strategic force mix contribute to stability, and so I would say I think it is headed in the right direction.

I am sure General Welch would like to comment on the subject, too, Mr. McDade.

General WELCH. Let me comment specifically on the proposal that we count both B–52s and B–2s as four, instead of the B–52 counting as ten as an ALCM carrier and the B–2 as one. The problem is that we have 90 B–52Hs, and 97 B–1s. So that under the current counting rules, we are permitted under START, 90 B–52Hs, 97 B–1s, and 132 B–2's.

So the counting rule doesn't increase the bomber force, nor does it increase the weapons the bomber force can carry. All it does is to make the B–2 more costly in terms of the counting rule, so it solves no problems.

Mr. MCDADE. It assumes you are not going to get ten B–2s.

General WELCH. Making the B–2s that we get count four instead of one serves no deterrent purpose.

Mr. MCDADE. So, Mr. Secretary, in the START negotiations, are both sides likely to agree that bombers would remain, the B–2 would remain as a counter one for one, non-ALCM equipped? Both sides, you think, would agree to that?

Secretary RICE. Both sides have agreed to that and I don't see any pressure within the negotiations deviating from that.

General WELCH. That has been accepted since Rekyjavik. It has come up several times in negotiations. There has been no proposal on either side to change that rule. All of the discussion regarding the bomber leg has had to do with how you count ALCMs, not penetrating bombers.

Secretary RICE. Most of the discussion seems to be us negotiating with ourselves; that is, the discussion of changing the way START should go is our side negotiating with ourselves.

Mr. MCDADE. You are getting a lot of advice from different quarters about how to accomplish this.

There was a television program—I think 60 Minutes—took on the B–2. I didn't see it, but I am told that one of the allegations they made is that the bomber has never been tested against low-frequency radar and, therefore, its low observability characteristic is in serious question. Has it been tested and, if not, why? Do we have evidence anywhere that the low observable characteristics of the bomber are in jeopardy or in doubt?

Secretary RICE. Again, I think this is a subject that both of us may want to comment on.

Let me say at the outset that we have had an extensive program within the Air Force which is referred to as the Red Team, trying to understand the opportunities for countering Stealth, for countering low observables.

I have to say—I would like to say publicly that I was very pleased to find that activity in existence, and to see the extent of the work it had done; the extent of the resources that have been made available to it; its access to and use of outside technical experts and all of that, and to find that going on within the Air Force when I came into office.

So I think there has been a comprehensive and honest effort to try to find vulnerabilities to Stealth, if you will, ways to deal with Stealth. The results so far have not been successful. The thing that the critics don't like to recognize is that Stealth is not a single characteristic. Stealth is a system just like anything else is and the use of reduced radar observability, along with other features, has to play together to get, in this case, a bomber through to its target, and what the defense has to do to contend with that is not just get an occasional blip on a radar screen, but it has to be able to identify, it has to be able to track, it has to be able to hand that over to the systems which are going to try to do something with it.

That system then has to be able to pick it up, track the missile or whatever is fired, has to be able to acquire and lock on and all those things have to work successfully to defeat Stealth. So when it is looked at in a system context, we continue to believe that the B–2 will have the characteristics necessary to carry out its mission.

Now, as to testing on this particular aircraft, there has been extensive testing at all the levels that you can do it in a development program short of flying the final bird itself against the radars and doing the testing at that level. That testing is scheduled to be undertaken later this calendar year. All of the information that we have so far from the static tests and from the simulation results all look very good.

We obviously need to put it through the actual flight test for low observables, and we will do that starting later this year. I would simply add in that context, however, that we do have to remember that we have experience with flying aircraft with low observable characteristics so I think there is, in fact, a good deal more technical basis and information base to go on here than is sometimes recognized.

General Welch might want to comment as well.

General WELCH. I would just add emphasis to the one point.

The B–2 is not invisible. There is no thought that you can launch a large force of B–2s and proceed to attack or retaliate against the Soviets in a stealthy manner. The generation and takeoff will be known, so the fact that there are B–2s out there will be known with or without low frequency radar.

But I cannot track the B–2 with enough fidelity to stop it. You can detect it with certain sets of radars to the extent you know there is something out there, and you wouldn't have any difficulty figuring out that it was a force of bombers because of the foreknowledge that would go with such a launch; but we have found no way to track it with the fidelity required to stop it, which is, of course, the problem the Soviets face.

Mr. MCDADE. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks?

COST OF B–2 BOMBER

Mr. DICKS. Thank you, Mr. Chairman.

Let's pick up on that.

The television program 60 Minutes claimed the Congress hasn't been told the truth about the cost of the bomber; that according to the calculations of one individual, that the cost was going to be $110 billion, not $70 billion.

Now, is that accurate? Have we not been told the truth here? Does somebody know something here that we don't, Mr. Secretary?

Secretary RICE. I can assure you you have been told the full truth as I know it and I am sure General Welch can say that for himself as well. I did not have a chance to see the program.

Mr. DICKS. You ought to see it.

Secretary RICE. I am sure I will get a tape replay at some point. If it was Sunday night, I was on an aircraft flying overnight back from the Pacific.

I have heard a little about the program, and I don't want to characterize it to too great an extent without having seen it, but it does seem to me from what I have heard that it was a very one-sided presentation.

Mr. DICKS. I think you could fairly characterize it that way, which is what you expect from 60 Minutes.

Secretary RICE. Your question was the first time I heard that much higher number——

Mr. DICKS. As I recall, it was the person who had been in charge of developing Stealth technology in the Pentagon and he said, "When I calculate the numbers here based on my experience, it is not $70 billion. It is going to be about $110 billion." If that is true, we are in trouble.

Secretary RICE. My understanding was that the person who was interviewed is a person—is out of our financial management area and certainly could not be properly characterized as someone who has been responsible for developing Stealth. The only other comment I can volunteer, just trying to understand what someone might have been referring to, is it possible, Mr. Dicks, that someone would have tried to produce a life cycle cost estimate, and, of course, you can make that any number you want to by choosing how many years of operations costs one wants to add on to the program costs, which is the standard way in which we have been talking about the cost of this program and other programs.

The numbers you are familiar with are the RTD&E and procurement costs for the B–2, and it is possible that someone has tried to create a new higher number by adding in ten to 25 years of operations costs in addition to that to get a total life cycle cost. But that is speculation on my part. I have seen that kind of higher number in other contexts and perhaps that is what was being referred to.

Mr. MURTHA. General Welch, why does the Air Force refuse to be interviewed in a show like this?

General WELCH. There is no way. Two years ago, they took nine hours of film, had a three-hour interview, put twelve seconds of the interview on the program, and in that twelve seconds, the inter-

viewee looked like an idiot. The interviewee was a very intelligent individual who said a lot of intelligent things in three hours.

Regarding the cost of the B–2 program, I don't know of any program whose costs have been more carefully scrutinized by different cost accounting groups. I know of no program on which we have kept the Congress more thoroughly informed on the outcome of all those cost accounting investigations, so I think we probably have higher confidence in our clear communication on the cost of that program than almost any program I know of.

Secretary RICE. I would like to add you have to remember that every time we change the profile on that program, it will change the costs again.

Mr. DICKS. As we stretch it. This is one of the things that I think is disingenuous about the critics. They say, "We are worried about the cost of this program, therefore, slow it down." If you slow it down, you just drive up the unit cost and I think there is more intent there than some would characterize.

President Reagan and Secretary General Gorbachev reached the bomber counting rules in Reykjavik and the notion that we are going to change those rules which are so favorable to the United States at this point in the negotiation is preposterous in my judgment. I am glad to see that the Administration has turned down out of hand those suggestions because I think that to try to come in at this late moment when we have a chance to get a START agreement and change those bomber counting rules when they are to such an advantage to the United States is really unwarranted.

I am very surprised that that suggestion has been made to Mr. Baker, especially right before he was going to meet with Mr. Shevardnadze in the Soviet Union.

Has anything changed on Soviet air defenses? The whole purpose for the Stealth bomber is because the Soviets have invested so heavily—something like 10,000 radars, 10,000 surface-to-air missiles, 200 interceptors. Is anything in the arms agreement going to take away those Soviet defenses?

Secretary RICE. No, sir.

STATUS OF B–52S

Mr. DICKS. So we are still faced with having that difficulty problem.

How long can these B–52s go on—even the B–52Hs? Aren't they going to get to a point where we have to consider replacing them?

General WELCH. The B–52H, in its cruise carrier role, has a very long life. We don't fly those airplanes much.

Without the B–2, we would have some 200 heavy strategic bombers of which half would be 40 years old at the end of this decade. So clearly not buying the B–2 is the beginning of the end for the bomber leg of the triad. However, the cruise missile-carrying capability of the B–52H is good for another decade and a half.

START COUNTING RULES

Mr. DICKS. If you didn't have the B–2, you would have to go out and do something else, wouldn't you? In other words, wouldn't that

so weaken the bomber leg that you would have to consider adding a new cruise missile carrier of some sort?

General WELCH. You would have to make a very difficult choice. You would have to either decide that you are willing to face the eventual demise of the bomber leg of the triad—if that is what is contemplated, then that ought to be addressed in that context—or we would have to totally change the basis for all of our negotiations and all of our force planning.

You cannot, under the START negotiation rules or under the START positions that both sides have laying on the table, you cannot compensate for not having a penetrating bomber by buying cruise missile carriers.

Mr. DICKS. I think that is what the chairman of the other committee thinks we can do, is buy cruise missile carriers to substitute for the B-2. You are saying under the rules, we are allowed 132 B-2s, 100 B-1s, and how many B-52Hs?

General WELCH. Each counts 10, so 90.

The counting rules that we have both agreed to that are laying on the table do not permit you to substitute—a cruise missile carrier substitutes ten to one and you simply cannot make that fit within the total warhead count.

Mr. DICKS. So you would only be able to have 13 additional cruise missile carriers to replace 132 B-2s; is that correct?

General WELCH. That is correct.

Mr. MURTHA. Mr. Young?

COST OF B-2 BOMBER

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. Secretary, when you are at a function with friends and someone walks up to you and says, "Gee, Don, does that airplane really cost a half a billion dollars?" What do you say to them?

Secretary RICE. I say to them, the answer, if you take the total program costs, all of the RDT&E and all of the procurement for the projected quantity and divide it by the quantity, you get that kind of arithmetic.

I think it is important to emphasize that we have made a tremendous RDT&E investment in this program and we have done that because it was necessary to advance many different areas of technology in order to produce a high payload range aircraft with stealth characteristics and that is what we have here now. That RDT&E bill has been substantial, no two ways about that, but it is largely behind us.

If we were, for example, to follow the recommendations that are being made in some quarters and settle for the small quantity of aircraft funded through fiscal year 1990, about 15 airplanes, we would have to complete the RDT&E program in order to have just those 15. We would have invested in excess of $30 billion and acquired 15 airplanes. From that point on, there are 117 more in the program, on the order of another $40 billion.

So I think you have to look at the costs in context and when you recognize that tremendous RDT&E investment that has been made and then look at what the actual production costs of the aircraft are, adjusted appropriately for inflation in the time since we have

done previous bombers, this bomber is a modest increase in unit costs, flyaway cost terms over what we paid for the B–1.

Mr. YOUNG. The contractor has an impressive presentation that would convince you that the cost is about $276 million a copy. Have you seen that?

Secretary RICE. I am sure I saw that somewhere along the line last year. Yes, sir.

Mr. YOUNG. I assume there is some validity to that, but I am not sure whether they are talking about a very large buy——

Secretary RICE. I believe that is the flyaway cost of the bomber and would not include the allocation over the bomber purchase of RDT&E cost and additional spares procurement and support equipment costs and the various other things that have to go into the total program to provide for the force of 132 aircraft.

I have also seen the contractor tout a number that—I forget what the exact amount is, but it is in the ballpark that you are talking about—of what the 132nd aircraft will cost to produce. They will sometimes compare that to, say, a 747 and so forth.

I think those are interesting and worthwhile comparisons to keep in mind, but we have to pay the costs out of the budget from now through the 131st before we get to the 132nd.

Mr. YOUNG. So you could almost argue it from both sides and be right—the $500 million a copy or the $276 million a copy?

Secretary RICE. Put another way, Mr. Young, a lot of that $500 million plus per copy has already been expended.

Mr. YOUNG. I understand that. Do you have any tables that you might supply for our record that would indicate those—the start-up costs, the tooling costs, the R&D costs, and then——

Secretary RICE. Certainly.

Mr. YOUNG. Whatever you can put in the record to help us because we are going to have the problem of facing up to that argument of a half billion dollar airplane.

Secretary RICE. We would be happy to do that, and we can lay it out with comparisons to other systems, too, if you would like.

[The information follows:]

B–2 RDT&E (start-up and tooling) and procurement investment funding to date (through FY 1990) follows (TY $M):

	Fiscal year—		
	1988 and prior	1989	1990
RDT&E	$13,220	$2,176	$1,881
Procurement	3,810	3,037	2,309

The "per unit program cost" and "per unit flyaway cost," based on 132 operational aircraft follows ($M):

	Fiscal year—		Then year
	1981	1989	
Per unit program cost	$337	$501	$573
Per unit flyaway cost	184	274	345

MISSION OF B–2 BOMBER

Mr. YOUNG. One of the other points made in the 60 Minutes program is that the B–2 is an airplane without a mission and that took up quite a bit of that segment. Would you like to respond to that generally and then maybe expand it for the record?

Mr. RICE. Certainly. The mission of the B–2 is deterrence. We think that is a pretty important mission. The penetrating bomber is recognized by both sides as the most stabilizing element of the strategic forces which provide that deterrence.

So to contend that the B–2 has no mission strikes me as an argument that is as vacuous as any I have heard in a long, long time. The B–2 will be able to perform that mission.

It provides us—beyond the specific role in the strategic equation, it provides deterrence across the spectrum of conflict.

The other element of the strategic nuclear balance tends to be much more single-purpose. The ICBMs and SLBMs, as important as they are to strategic balance, obviously have value only in that context. The heavy bomber has capability to contribute across the spectrum of conflict.

To put your question and Mr. Dicks' question together, I think it is also worth noting that those who would have us back away from the penetrating bomber in the strategic equation are, in effect, arguing for moving the balance back towards a heavier concentration on reliance on fast fliers with strategic missiles.

That is contrary to the whole thrust of arms control planning in this country and in the Soviet Union more recently as well. I certainly couldn't sign up to a plan which drove us back in the direction of a heavier reliance in the strategic balance on the fast fliers. We should be moving in just the other direction.

[Additional information follows:]

The mission of the B–2 stealth bomber is to maintain the continued viability of our strategic nuclear Triad that has underwritten deterrence for over thirty years. Its primary role will be to support the Single Integrated Operational Plan. Consequently, its mission cannot be viewed in isolation. Without the B–2, the bomber force would decline to less than 200 by the end of the century and one half of the force would be more than 40 years old. This would call into question the viability of the bomber leg and could result in eventual disintegration of a balanced Triad.

High confidence deterrence comes from ensuring that any potential adversary perceives that the costs incurred by initiating a nuclear exchange far outweigh any possible gains. By providing enduring penetration capability well into the 21st century, the B–2 will hold at risk a wide variety of targets considered most valuable by the Soviet Union. Its capabilities complement both the standoff B–52 and the penetrating B–1B. It will have all the positive attributes of the manned bomber, such as flexible employment, positive control launch, and the ability to be recalled, retargeted, and reconstituted, and will provide the inherent stability of a weapon system that is fundamentally retaliatory, and not preemptive.

The B–1B was developed and rapidly deployed to offset the B–52's declining penetration capability. An extremely capable penetrating bomber today, the B–1B was never envisioned to be our long-term penetrator. Even with planned upgrades, its capability to penetrate the most heavily defended regions of the Soviet Union will be significantly degraded by the end of the 1990s. Deploying the B–2 to attack those regions with the heaviest defenses—and the most valuable targets—will allow the B–1B to be used against less heavily defended areas.

The goal of ongoing nuclear arms control negotiations is to reduce the risk of war by enhancing strategic stability. As indicated by the counting rules currently agreed to, both the United States and the Soviet Union have recognized the inherent stabilizing nature of slow-flying, recallable manned bombers. Regardless of the actual weapon load, penetrating bombers would count as only one accountable warhead against the limit of 6,000. The leverage provided by penetrating bombers offers the only means to adequately cover the post-START Soviet target base.

Cruise missiles have been discussed by some as an alternative to a new penetrating bomber. While cruise missiles are an excellent addition to our bomber force, they cannot replace manned penetrating bombers. They are very capable weapons against some fixed targets and add mass to the bomber attack for air defense saturation. At the same time, there are a number of important targets that are ruled out by the lack of versatility of the cruise missile. They have limited capabilities against area targets; are not effective against look-before-shoot targets; present no threat to generated relocatable targets; and cannot react to encountered enroute enemy air defenses.

The flexibility of the B–2 will also enable it to be an extremely capable addition to our conventional power projection forces. Its high aerodynamic efficiency combined with heavy payload capability will enable it to rapidly project massive conventional firepower anywhere in the world to control rapidly escalating crises. With a single refueling, it can cover virtually every target on the globe staging from only three forward operating locations. Further, its high survivability will mean it will be capable of operating without much of the airborne support packages normally associated with other aircraft.

The Air Force continues to pursue the long standing need for a modern force of penetrating bombers that will serve the needs of deterrence for the next 25 to 30 years. The B–2 is both the right and the only solution to that need.

Mr. YOUNG. Would you be willing to expand on that for the record and maybe cite some specific examples of specific missions or scenarios, strategic or tactical, that might apply?

Secretary RICE. Yes, sir.

[The information follows:]

The B–2 is the manned penetrating bomber of the future, and its primary mission is nuclear deterrence. The B–2, in its nuclear role, will penetrate enemy airspace and hold a wide range of fixed and relocatable targets at risk well into the 21st century. The B–2, operating with a trained crew taking advantage of low observable characteristics, provides the best combination of accuracy and weapons yield of any system in the TRIAD.

The B–2 can also make a significant contribution across the spectrum of conventional conflict ranging from limited punitive actions to stategic conventional conflict. Its range/payload efficiency allows it to cover all the world's land areas from three representative locations: Whiteman AFB Missouri; Diego Garcia; and Guam. Its low observability will allow it to achieve greater surprise at the target and operate with minimal defense suppression. The need for air refueling support and forward basing will be reduced. As an example, the raid on Libya required 2 carrier battle groups (20 ships), 84 combat aircraft, and 35 support aircraft, and exposed 134 crew members to risk. In contrast, a very small force of B–2s and KC–10s, operating from US soil, could deliver the same payload to suitable targets. In addition, bombers are capable of performing a wide variety of collateral maritime functions, including reconnaissance, interdiction of enemy seapower, protection of shipping, and aerial mine-laying operations.

SAM–7 MISSILES

Mr. YOUNG. There have been reports in the media all morning, and I was just handed a copy of an Associated Press story that moved on the wire, about 10 SAM–7s in Colombia that were in the

control of some of the drug traffickers. The story indicated that President Bush had been warned that these type of missiles were in Colombia before he made his visit there.

Could you say anything about that? Since you fly the airplane and are concerned about its security, did you know about these missiles that were in Colombia?

Secretary RICE. I did not have that report personally, sir, but perhaps General Welch could comment.

General WELCH. We don't have that report, but we assumed that kind of threat and are prepared to deal with it. No, I didn't know about that report specifically.

Mr. YOUNG. According to this report they blew up some kind of facility there and they found these missiles with some of the drug folks.

Secretary RICE. If I could, I think that whatever the accuracy of that particular report, it helps emphasize the point that advanced technology weaponry is spreading all across the globe and the environment in which U.S. military forces are going to have to operate in the future is one in which we are going to have to assume that those kinds of advanced capabilities will be there, whatever the scale of the military force that we might have to oppose.

REDUCTIONS IN FORCE STRUCTURE AND SUSTAINABILITY

Mr. YOUNG. I want to ask you about sustainability. You mentioned in your statement about sustainability and I wonder if that would be an appropriate subject for now or should we wait until this afternoon's session on that question?

Secretary RICE. Certainly, some of it could be appropriate for now, sir.

Mr. YOUNG. Well, I am going to read what you said here. You mentioned that "In order to afford the priorities that you have outlined in your statement, you will have to make painful reductions in force structure and sustainability." Sustainability was the first thing to go last time. How much of a reduction do you contemplate in the area of sustainability?

Secretary RICE. We think the adjustments we have made in the budget are really quite prudent ones. That is a reference to the fact that, for example, we think it is prudent to stop procurement of the Maverick, the Combined Effects Munition, in some areas where we have very large stockpiles of them already in place.

The objectives that we were building towards were heavily predicated on having to mount the central front defense in NATO, and there are in some cases more modern systems, more effective systems coming along as well.

So in trying to fit within the much more stringent fiscal guidance and budget limits that we have to deal with these days we had to make what we think were prudent tradeoffs.

We don't believe we have reduced sustainability to the point where there would be a risk of being able to carry out the missions assigned to the forces.

ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE

Mr. YOUNG. One of the follow-on systems you are talking about, I am sure, is AMRAAM and this Committee has talked about AMRAAM for so long that it seems like it is a first cousin to most of us.

The problem that we have had with AMRAAM—and we have supported the program strongly—is this one of those programs that possibly we have asked the system to do too much and that we may be at a time where we might want to ask it to do a little less and get on with it?

General WELCH. I would think that the way to describe AMRAAM is it is the most tested program in history, and probably has the highest standards.

Now, it doesn't follow that I think we should reduce the standards, but let me say this—if any prior air-to-air missile had performed as AMRAAM does to this point of time, it would be in the inventory and we would be delighted with it.

However, we have asked for very high-performance standards from the missile. We see ourselves achieving that.

Its 77 percent test success rate is the highest in our experience and the demands that we have made of the missile are being achieved in the test program.

The current situation that caused us to delay accepting any more production missiles has to do with the durability of the missile when it is carried in a captive carriage mode on the airplane, not with its employment. It has to do with how long can you beat it around currently on a fighter airplane without using it and still have a reliable missile? Again, we set very high standards.

The failures that we have had since we restarted this in December are quality control failures. They are not design failures. The step we took was to ensure that the contractors understand how important we feel quality control is.

We know quality control is achievable and we feel strongly that those very high standards of durability which impact the life-long maintenance mode that that missile generates are important.

If we have reached the point where we thought that our requirements were unreasonable, we would have modified them. We are convinced that the contractor can meet the durability requirements just as they are meeting the performance requirements and both of those are important to us.

Mr. MURTHA. I am told that the contractor is having a problem getting a fix on these things. Is that accurate?

General WELCH. For example, the last eight problems have been nothing like the earlier problems with the failures. The difficulty was that the vibration environment on the fuselage stations on the F-15 are very severe as the airplane goes from supersonic to transonic. That is what I mean by beating it around.

The last eight were different kinds of failures. They were failures that at least five of them can be traced to a quality control problem that should not have occurred. Three of them are still under analysis.

Mr. MURTHA. Is the information we have accurate, that the contractor does not have a fix on the program? In other words, some of

the problems they are not able to fix at this point, they don't have the answer for the problem?

General WELCH. There are three that are still under analysis. I can't speak to those, but of those failures that we have analyzed and understand the failure cause, which is all but the last three, I think that the fixes are known.

Mr. MURTHA. But you, in fact, told the contractor you are not going to accept any more until they get this fixed, and they don't have a fix for them as we understand it.

Secretary RICE. We are not accepting deliveries of the production missiles until they fix the production quality control problem.

I am not sure what you are saying when you say they don't have a fix. They may well not have pinpointed what went wrong in the manufacturing process, but certainly manufacturing quality control is an achievable matter given that the design tends to work as indicated.

Mr. MURTHA. You ought to send someone up here to talk about it because there seems to be a problem.

Mr. Hefner.

MISSION OF THE B–1 AND B–2 BOMBERS

Mr. HEFNER. Thank you, Mr. Chairman.

I am one of those people that was of the opinion that if we were going to go the stealth route, we should have skipped over the B–1.

We were informed in this Committee that we could have the B–1 and also the B–2 with no delays. I went to the West Coast to talk with the people that were building the B–2 and they assured me they could have it on line. We were told by the Air Force they couldn't do that.

In the end, we wound up with the B–1 and now we have a B–2, and the people at the Rotary Club in Concord don't understand all those technical arguments. They still see it as a half a billion dollar airplane and they ask why do we need it?

Let me ask a very simplistic question: What is the difference in the mission for the B–2 and the B–1?

General WELCH. The mission is basically the same. The capability is not. You have already alluded to how this thing unfolded. You will recall in the mid-seventies all the studies said we need 230 penetrating bombers. The Air Force plan was to build 230 B–1s.

However, emergence of stealth technology made it evident that that is a smarter approach to the penetrating bomber. There was a strong difference of opinion about how quickly we could field a stealth-based penetrating bomber. Some thought we could do it by 1986. The Air Force said 1992. By the beginning of the eighties, it was apparent that 1986 was grossly optimistic and it would take until 1992, so the B–1 plus the B–2 turned out to be the approach to getting 230 penetrating bombers.

Fundamentally, the mission is the same except we need 230 bombers capable of performing that mission and the B–2 will perform it much better and will be capable over a much longer period of time.

Mr. HEFNER. I was watching 60 Minutes this weekend and the way I see it, the B–1 and the B–2 are to be used in what amounts to a mop-up operation after you have had a nuclear exchange.

I don't see the real deterrent factor in the B–1 or the B–2 and I remember very distinctly when the arguments were being made in the early stages of the B–1 about it being a mop-up operation, and after a nuclear exchange, you could do the mop-up with a couple of piper cubs because the whole civilization is destroyed and the point was made in 60 Minutes that the B–2 certainly can be tracked, and it is certainly vulnerable to any kind of interceptors that the Russians might have left because it has no protection and it is very slow.

I think you have a real problem in these days when the budgets are so tight, talking about massive base closures and drastic cuts in medicare and other domestic programs. I think we have a real problem on our hands with this program, and I, for one, in the next few months want to get a better handle on what the cost is going to be for this B–2.

General WELCH. I would certainly agree that if deterrence failed, we have failed in the mission. The Soviets are certain that they will suffer a massive retaliatory response that will destroy targets of the Soviets. It is the capability that that bomber possesses to retaliate that serves its deterrent purpose and the certainty that the bomber will arrive and destroy targets so the deterrent mission for something like 60-percent of the targets doesn't require a rapid response; it requires a certain response, and the B–2 provides a certain response.

ICBM MODERNIZATION

Mr. HEFNER. I watched the three former Joint Chiefs who were talking about rail garrison, and Midgetman, and it was their opinion that these were not something that should be a very high priority. How do you see the rail garrison and the Midgetman, are they also a deterrent?

I am one of those people who believes that we are to the point, God forbid, that if we ever get into the big one, that this is going to be a nuclear exchange and it is going to be over very quick, and that being the case, we can mop up with anybody who is living, if they still want to mop up.

Why is it so important that we have the Midgetman and the rail garrison? The simple facts are that we can't have everything that we would like to have, and we have got some real tough decisions to make on this Committee, and we are the ones who have to answer to the people back in North Carolina or Pennsylvania or Oregon, and you folks don't really have to answer to anybody because you don't have to stand for election. There is just not going to be the money to do all these grandiose things, make no mistake about it.

Secretary RICE. Mr. Hefner, you are right, we don't individually stand for election, but we do have the job within the Air Force of putting together a balanced program against the budget resources that we have available. So we certainly are finding it necessary to face up to the kind of hard choices which you are asking about.

It seems to me, though, on the specific systems, you made the point indirectly very eloquently about the importance of the strategic nuclear equation. Those strategic nuclear capabilities continue to represent the only threat to the survival of our society. There can't be anything more important than to deter their use.

This strategic modernization program comes in multiple components because we have a force that is based on the Triad concept, and the Triad concept is not there so that there are multiple ways of responding or multiple ways of destroying targets on the other side; it is there as a kind of double insurance policy, to make sure that our ability to deter does not fall victim to a technical breakthrough in any one area.

Now, as we work on this whole equation, what we have been trying to do over many, many years is to move this strategic balance in the direction of greater stability, and that is what each of these programs is designed to do. Adding mobility to the ICBM leg of the Triad reduces the vulnerability of those systems to a preemptive attack and thereby reduces the incentive that anyone who might be contemplating use of such terrible weapons would have to use them because he would be much less able to see that he could make any net gain by engaging in such activity.

The rail garrison system is a low-cost way to add mobility to strategic missiles that we already have in our inventory and it is clearly a stabilizing move for the strategic balance to add that mobility quotient to those systems. The Small ICBM goes even further in that direction and adds that ability to be mobile, and therefore survivable across an even wider range of circumstances that might arise.

So that is what those systems do. They add stability to strategic balance. They increase our deterrent ability. They reduce the risk of nuclear war.

Mr. HEFNER. But we are not very concerned about the Soviet Union having a penetrator that would jeopardize our MX. Are they all vulnerable to missiles from the Soviet Union?

Secretary RICE. The Soviet Union is building a modern bomber force, too. We expect with current projections that they will build a much smaller bomber force as has been historically. We expect that will be true in the future as well. They are modernizing every component of their strategic force that they will be able to maintain under the START treaty.

Mr. HEFNER. Common sense would lead you to believe that if there were a major conflict, it would be an exchange of Soviet missiles against our MX or our Trident. It certainly wouldn't be an exchange between two penetrating bombers. So in that case, it would mean that your B–1 and B–2 wouldn't have much trouble penetrating at all just to knock out radar sites or whatever was left standing.

So in my view, it is not real frightening for the Soviet Union that we have the B–1 and the B–2. Their big concern would be Trident, MX and the B–52s.

Secretary RICE. You have just put it very well. It is not frightening to them either that we have them and that is why they are the stabilizing elements of the strategic balance.

If we were to do away with the bomber components, we would move the resulting strategic force structure to one which was dependent on the fast fliers, and by I think the perceptions of everyone who has tried to analyze that subject over time, that would be moving it to a situation that would be riskier, more frightening, if you will, more tempting in a crisis situation to use those kinds of systems, and that is exactly what we are trying to stay away from.

Mr. HEFNER. I have some other questions for the record.

Thank you, Mr. Chairman.

[CLERK'S NOTE.—Questions submitted by Mr. Hefner and the answers thereto follow:]

FORCE STRUCTURE CHANGES

Question. Mr. Secretary, as we go through these dramatic changes in the world I realize it is difficult to stay abreast of them all. The President has proposed and it appears we will draw our European forces down to 225,000. We now read that the Department plans to reduce our presence in the Pacific by 10–12 percent. Were any of these proposals incorporated in the fiscal year 1991 budget before us?

Answer. In the Pacific, the fiscal year 1991 President's Budget reduces Air Force end strength by approximately 1,400, a 2.2 percent reduction. Additional proposals are being considered that, if implemented in conjunction with the fiscal year 1991 President's Budget, would approximate the 10 to 12 percent Pacific force reduction in future years.

Question. Given that the force is coming down and thus the requirement for equipment will be reduced as well, can you assure the Committee that the Air Force will need all the equipment requested in this budget?

Answer. Yes. The Air Force regularly reviews its equipment requirements, costs, and priorities as a normal part of the budget process. As force structure reductions are included in the budget, adjustments are made to the equipment requirements needed to support that force. Most programmed force reductions will occur in fiscal year 1992 or later. If the reductions should be accelerated, the Air Force plans to apply any savings against the backlog of unfunded requirements in other equipment accounts.

Question. For the overseas force structure reductions, is it the Air Force plan to inactivate those units in place or relocate them to the states?

Answer. The units are deactivating in place. Their associated aircraft will either be redistributed, retired, offered for Foreign Military Sales (FMS), or destroyed. Redistributed aircraft will be used to modernize and/or plus up appropriate active and reserve units. Aircraft slated for retirement will be assigned to the storage facility at Davis-Monthan AFB, AZ. The number of FMS aircraft will be based on availability and customer requirements. Destroy/Disabled aircraft numbers and types will be based on the results of Conventional Armed Forces in Europe negotiations. These actions are in conjunction with overall force structure reductions and base closure actions.

[CLERK'S NOTE.—End of questions submitted by Mr. Hefner.]

Mr. MURTHA. Mr. AuCoin.

PRIORITIZING WEAPON SYSTEMS

Mr. AUCOIN. Thank you, Mr. Chairman. Secretary Rice, and General, I want to welcome you to the Committee today as well.

Secretary Rice, we have talked about several of the Air Force systems in the responses that you have given to my colleagues today, B–2, MX rail garrison, Midgetman, Advanced Tactical Fighter, and we are in a period of budget restraint. I stipulate that I fully understand that the Air Force likes each of these systems, but from your standpoint, could you prioritize for the Committee those systems, the B–2, the MX rail garrison, Midgetman and ATF, a prioritization?

Secretary RICE. Mr. AuCoin, I don't think there is any way to make a list of ordering of those systems. Three of them, the B–2, rail garrison and Small ICBM, are all, as I have been trying to describe, components of an overall strategic modernization program whose purpose is to move the strategic balance in the direction of a more stabilizing balance on the two sides and away from the kind of vulnerabilities that we have all been concerned about.

Mr. AUCOIN. I understand that, Mr. Secretary, but my question is, given resources, and you see the press and I think you have a sense of the pulse of the Hill as well as any of the rest of us in the room, there is going to be pressure on allocations, on programs across the board, and I for one would like to know how the Air Force would prioritize, knowing that it wants them all, the B-2 program, the MX rail garrison, the Midgetman program and the Advanced Tactical Fighter.

Secretary RICE. The other point that I was about to make, Mr. AuCoin, is that as we work our program planning problems within the department over the years, one aspect of all this that it is important to focus on I think sometimes gets lost when one simply makes a list of systems and looks at their total cost, and that is the issue of time phasing.

Take the rail garrison, the Small ICBM, for example, those are time phased in the program so they don't come on top of each other; they are not choices made at the same point in time. We are talking about quite modest sums in the budget for the Small ICBM in the current year and the next couple of years, and those are the years the rail garrison funds are being expended.

The Advanced Tactical Fighter we will be committing at the very end of fiscal year 1991, the last quarter to the beginning of full-scale development and the development period will stretch out over years, and it will be the end of the decade before the first operational squadron is delivered for the ATF. By that time we will be beyond the main procurement—the budget demand period for the B–2. So time phasing matters on these programs.

MISSION OF THE B–2

Mr. AUCOIN. I didn't expect to be surprised by your response, Mr. Secretary. Obviously you don't want to list programs in a priority fashion. From the Air Force standpoint, I can understand that.

Let me follow up on the role of the B–2 as that you have offered to the Committee today in three different instances when my colleagues have asked questions about its mission.

Secretary Rice, you have indicated that its mission is deterrence; that is a mission that has to be performed by our entire force structure or I hate to think of the consequences. But you have indicated the B–2's mission is deterrence, and that it is stable as well as its deterrent role because it is not as instantly threatening as ICBMs, for example.

I can accept all of that, but I would put this question back to you. Why is a penetrating bomber more stabilizing than a stand-off bomber with air-launched cruise missiles, and why wouldn't a stand-off bomber with air-launched cruise missiles represent the same kind of deterrence you described and ascribed to the B–2?

Secretary RICE. I would certainly see the stand-off bomber with cruise missiles as a relatively stabilizing component of the strategic balance as well. It is very clear when you look through the START negotiations that the Soviets, for reasons that we may not fully understand, see the cruise missile as more threatening to them than they do the penetrating bomber. That is the only conclusion one can draw out of their agreement to the accounting rules that have been developed in the START process.

So I certainly don't mean to—I would certainly agree that the cruise missile, the stand-off bomber with the cruise missile is a stabilizing element as well, but as General Welch pointed out, it does not substitute for the penetrating bomber in arriving at the judgments of military sufficiency that the Joint Chiefs need to make about the overall strategic balance, and perhaps General Welch would like to add something to that point.

Mr. AUCOIN. Staying on the point of deterrence and stability and stand-off bomber with air-launched cruise missiles, stepping up to both of those desirable goals as well—in lieu of the B–2, being able to do so as well as the B–2, why not?

General WELCH. Well, I think that we go to the root of the deterrent mission, which of course is to provide a force so that the Soviets can't possibly miss the point that we can cover the full target base required for deterrence. So that the cruise missile is not a substitute for the penetrating bomber when it comes to ability to cover targets, I guess is the main point. The penetrating bomber delivers the largest, most accurate warheads and covers the largest share of the targets.

The cruise missile is called a missile because it is a missile. It has the attributes of a missile; it does not have the attributes of a manned aircraft and it does not have the accuracy, the load-carrying capacity and flexibility of a manned aircraft. It is those unique attributes that gives the penetrating bomber the ability to cover such a wide range of targets efficiently.

The task is to cover all the targets with the Triad forces, and the penetrating bomber is the most efficient way to cover a large chunk of those targets that need to be covered.

Mr. AUCOIN. It is one thing to make the statement but I haven't heard why; why is it the most efficient way to cover all those targets?

My understanding of the accuracy of the air-launched cruise missile is that it is a pretty accurate missile. You may want to, when we get into closed session this afternoon, talk about that.

General WELCH. I would concede that in open session. It is a very accurate weapon. It is a much smaller weapon. It has no flexibility.

Mr. AUCOIN. What kind of flexibility does it not have?

General WELCH. It would be better to talk about that in closed session.

Mr. AUCOIN. We will do that this afternoon. When you talk about it as a missile, I think it would be wrong for the record to be confused into blurring this system, stand-off cruise missile platform, blurring that as somehow being the equivalent of an ICBM. You still have the man in the loop. You still have the launch. You still have the recallability.

In all those respects, the stand-off bomber with ALCMs is infinitely more stable than ICBMs; it meets that test and the deterrent test as well. It is also cheaper.

Secretary RICE. I was going to add the point, sir, that I think one has to, in thinking about the overall mix of the bomber force, one has to think about the problem of the Soviet strategic defenses which, as you know, they make a large investment in. There is no doubt whatever that the problem of the Soviets' defenses is compounded mightily by the requirement to deal with both the penetrating bomber and the stand-off cruise missile.

If we were to give up on the penetrating bomber, we would make the Soviets' defense problem much easier than it is having to confront the mix of those kinds of capabilities.

Mr. DICKS. The mix of ALCMs and——

Secretary RICE. And penetrating bombers.

STRATEGIC ARMS REDUCTION TALKS

Mr. AUCOIN. Let me ask both of you this question, Mr. Secretary and General Welch.

Suppose START is completed as we now envision it, the START treaty. What would you like to see as the focus for the next strategic arms treaty if we get START as we now envision it?

Secretary RICE. Well, I would expect that we will see, with a reservation on the question of on what timing we will see it, but I would expect what we will see down the road will be an emphasis in follow-on negotiations on the heavy missiles and on the highly MIRVed systems, particularly the land-based, highly MIRVed systems.

Mr. AUCOIN. General, what is your response to that question?

General WELCH. I agree that that would be the most likely thrust of a follow-on.

Mr. AUCOIN. That being what again?

General WELCH. The heavies and the highly MIRVed land-based systems.

FLYING HOURS

Mr. AUCOIN. General, when General Powell testified before us he said he intends to maintain proficiency in training regardless of

budget cuts that may occur, that is the force, make it smaller but it is not going to get hollow at any size. I find that an excellent way to approach the budgetary problem and I compliment General Powell for that approach.

With that in mind, can you assure the Committee that at any foreseeable budget level, air combat maneuvering hours per pilot will not be reduced? Air combat maneuvering hours per pilot?

General WELCH. I am not hesitating because I hesitate to commit to readiness. I don't. I fully commit to readiness, and I fully commit to providing the flying hour program that we provide now.

I am not sure why I would single out that particular piece of a pilot's training. I can commit to ensuring that we will provide adequate combat maneuvering training for our pilots, but those hours are different for every airplane.

Mr. AUCOIN. Why I ask that question and the reason I think it is something that needs to be protected, our Committee had a hearing last year in which we were concerned about the increasing capability of the Soviet tactical air capability, and particularly some of the hardware that we felt was coming on. We had a superb briefing by your people.

In that briefing, however, the key point that was brought forward and we could share the record with you, the thing that came across almost in a pleading way by your people is our advantage, irrespective of equipment as it now stands and as it is projected to be in the future is in the time we put into quality readiness for the pilot, and the stress was on air combat maneuvering hours on a per pilot basis.

I never heard a more unequivocal appeal than what we got, and the whole question was our capability, TAC air versus theirs, both equipment as well as the capability of the personnel. So would you agree with General Powell's approach when it comes to this?

General WELCH. Absolutely.

Secretary RICE. Absolutely, Mr. AuCoin. We are certainly committed as we look towards a smaller Air Force in the future, taking the force size down to a level which we can keep of high quality, meaning high-quality people and modern equipment both.

Mr. AUCOIN. So we would not anticipate any reduction, then, in the hours that I have just described?

General WELCH. We certainly would not.

Mr. AUCOIN. Thank you, Mr. Chairman.

I would like the rest of my questions entered for the record.

Mr. MURTHA. Without objection.

[CLERK'S NOTE.—Questions submitted by Mr. AuCoin and the answers thereto follow:]

B–2 BOMBER

Question. When Secretary Cheney testified here a few weeks ago, I told him I've always been a vigorous supporter of the B–2, but in this changed world my support was hanging by a thread. I told him I could only continue to support it if he could show me how it fit into a deterrent strategy that made sense for today's world and tomorrow's.

He didn't do that, so I guess today my support for the B-2 is hanging by half a thread, and I want to give you the opportunity to re-enforce that thread.

Let's begin with the Libyan mission. I understand the argument that B-2 has the range to do missions like that without forward basing or aircraft carriers and that probability of penetration is very high. But the same could be said about the B-1B and we didn't use B-1Bs then, why would we use the B-2s for that mission in the future?

Answer. Use of the B-1B in the Libya operation was not an option—Eldorado Canyon occurred on 14 April 1986, almost six months prior to the B-1B's initial operational capability. The aircraft was still undergoing major test activity, including nuclear weapons certification with conventional weapons testing to follow. We will use the B-2 in the future for such a mission when the aircraft is operational and when its unique capabilities—long range, excellent weapons delivery accuracy, and low risk to both men and material provided by unparalleled survivability—are called for.

ADVANCED TACTICAL FIGHTER (ATF)

Question. I've always supported the ATF, on the grounds that you can't build fighters by the bean count; this is one of the few areas of combat where, head to head and one on one, we have to be better than the other guy.

But as I look at the probable course of the world over the next few years, we may be heading for an airplane for which the bucks just aren't there. I remember that the Air Force put itself into a similar situation fifteen years ago, when you threw yourselves into the F-15, and found you couldn't afford as many as you wanted. You responded, by, in a sense, cutting the F-15 in half to produce the F-16, and the F-16 has been an unqualified success.

Now you may be looking at a situation with your fighter of choice whether it's not a question of not being able to afford enough. It may be a question of not being able to afford any, period. If may be that to get a fighter of that technology, you're going to have to cut the ATF in half, build the best fighter you can using one ATF engine. Your designers will groan and moan that it can't be done; but they groaned and moaned about the F-16 too, and they were wrong. Have you studied that option recently? What are your thoughts on it?

Answer. Yes, the Air Force conducted trade analysis studies on a single-engine ATF option for the Milestone I decision. Our analysis concluded that a single-engine fighter could not meet ATF mission requirements. The Major Aircraft Review being conducted by the Department of Defense is also evaluating alternative ATF options. Their review will be complete in March 1990.

The mission of the ATF is counter air. To control the air, the ATF requires the capability to detect enemy aircraft and launch weapons before they can do the same. This requirement dicates the use of stealth technology and advanced avionics. The ATF must be able to control the air whenever and wherever required. Supercruise, combined with stealth technology, will enhance AFT survivability against surface-to-air and air-to-air threats. Internal weap-

ons carriage is required to help reduce the ATF's radar signature. However, it must also carry sufficient numbers of weapons to provide adequate mission efficiency. These requirements dictate the ATF's size. Our analysis indicates a single-engine ATF would not have the avionics capacity nor the missile carriage capacity necessary to accomplish the counter-air mission.

BURIED TARGETS

Question. Now tell me about deep buried targets. Why can't we hit those with a ballistic or cruise missile? And beyond that, are there any specific classes of targets for which a gravity bomb is the only way to go?

Answer. Projecting damage expectancy for a given target is a complex process but ultimately involves selecting a weapon system with a specific accuracy/yield combination. ———. This allows planners the flexibility to apply bomber weapons across the entire target set. Additionally, the unique ability to conduct damage assessment allows bombers to provide maximum target coverage with minimum weapons expended.

RANGE FIGURES FOR THE B–2

Question. You've declassified range figures for the B–2. Now, considering the jeopardy in which this program finds itself, I urge you to declassify its pre-launch survivability, at least in general terms. How does the pre-launch survivability of the B–2 compare to that of the B–1B?

Answer. The B–2 base escape capability (pre-launch survivability) is comparable to that of the B–1B.

EFFECTIVENESS OF WEAPON SYSTEMS

Question. Please provide CEP for:

1. ALCM.
2. ACM.
3. Gravity bomb dropped from B–2.
4. SRAM from B–2.

Answer. The effectiveness of nuclear weapons is measured by their probability of damage (P_d). P_d varies according to weapon yield, delivery accuracy, and target characteristics. The following chart provides pertinent yield/accuracy/damage information for the weapon systems requested. ———.

[CLERK'S NOTE.—Classified chart removed. End of questions submitted by Mr. AuCoin.]

F–15 AIRCRAFT

Mr. MILLER. General Welch, I was surprised when you mentioned the F–15 and that one of its problems was the vibration when going into supersonic speed and coming out of supersonic speed. We had that problem on aircraft 25 years ago with the old F–101. I thought that was all straightened away and built into the design so that would not occur.

General WELCH. Speaking of the F–15, if you were flying an F–15 as it goes from supersonic and goes back through, you don't even know it unless you look at the air-speed indicator. The problem is

that the air flow that is taking place in those missile cavities underneath the airplane changes constantly as the pressures move across the airplane, and that produces a very severe vibration environment in that particular area. It causes no difficulty to the airplane.

The airplane has been experiencing that ever since we introduced it in 1974. But it does cause a special durability challenge to the missile that resides in that missile cavity. We know how to solve it. It was just more severe than we had expected when we started the test program.

Mr. MILLER. So it is resolved or will be resolved without a lot of additional expense?

General WELCH. For example, the fins on the missile had to be made of stainless steel instead of aluminum. The bonding had to be strengthened. There are things like that to beef up that particular part of the missile. But we think that—that solution is in hand and that has not been the nature of the recent failures.

B–1B COSTS

Mr. MILLER. I wanted to mention the B–2 and that has been discussed pretty well. Many of my questions have been answered. I will guarantee you I will not bring up "60 Minutes."

When we get into the total cost per copy of the B–1, taking into consideration the R&D and all that was necessary, the engineering as we go along, what is the cost per copy for a B–1?

General WELCH. I don't——

Mr. MILLER. If you do not have that right now, if we could have that for the record, I would appreciate it.

Secretary RICE. We would be happy to provide that for the record.

Mr. MILLER. I would like that very much.

[The information follows:]

Using constant 1981 baseyear dollars, the total program cost for each B–1B aircraft is $208.8 million.

Mr. MILLER. You talk in your statement, Mr. Secretary, about the technology superiority, and we hear so much now about cutting back in technology and research. It appears that you are still going to need quite a bit of the funds for R&D, but up here I have heard it a number of times, that we can pull back on research—do you feel that is true?

Secretary RICE. We certainly agree with your point, Mr. Miller, that we are going to have to be careful as we draw down the total budgets to protect an adequate investment in our technology base and to be able to continue the development of modern systems that will keep U.S. forces high-quality forces even though smaller in total size as we get out into the mid-1990s and beyond.

RECRUITING

Mr. MILLER. In another area, you speak about recruiting, and we hear the President mentioning that we will have 225,000 troops in Europe, that we are going to have troops coming home from South Korea, from Japan and many other places, and yet I notice again in magazines, newspapers, television, advertisements for recruiting. We are spending a lot of dollars for recruiting. Right

about the time when we are going to have a lot of our personnel coming home, admittedly not as many in the Air Force, we are spending apparently $200 million, which includes television time to be "as good as you can be" and all of this advertisement for recruiting.

So I am wondering how you feel about the Air Force—do we need that extent of recruiting? The general public is watching this and yet they are hearing we are going to have reductions, we are going to bring the people home and we are going to have a surplus of personnel, and yet we go ahead and spend the money on recruiting.

General WELCH. I think that if you look at the record over the years that we have significantly reduced the total advertising budget for recruiting, this is particularly true in the Air Force, but I don't think there is any question that the leverage that we get in the services in the higher quality recruit is worth many, many times the cost of recruiting, that the reason that we are able to do the things we can do with a smaller force is simply because the quality of the force that you have serving you today is so much higher than it was when we had a much larger force, and the investment, that particularly the Army and the Marine Corps, the high-recruiting requirements, the return that they get from that investment and also the Air Force, because while we have always been an all-volunteer force, the general public attitude toward service has an impact on us. So the return we get in terms of quality and productivity and the things the Armed Services are able to do because of that is invaluable.

Mr. MILLER. Dollarwise that is true, but it is something the general public sees. It is very plain, and they are not necessarily knowledgeable of some of the things you are, no doubt, but it would appear that we do not need as much recruiting right at the present time.

Secretary RICE. And we are planning in the Air Force certainly, and I am sure it will be true in the other services too, to cut back the amount of new accessions that we are taking in and so we are looking to recruit fewer people than we had been.

We had been planning 54,000 new recruits in the Air Force in this current fiscal year and we will take in instead only about 36,000.

SIMULATORS

Mr. MILLER. When you speak of operational and training expenses will we see an increase? Are you requesting an increase for simulators?

We know they are not as good as flying. There is no doubt about it. But some of the training can be done there without using fuel. Are you going to increase the use of simulators?

General WELCH. I think that we have over the years seen a significant increase in the use of simulators and, depending on the aircraft, you will see that continue to increase.

In the fighter business, for example, you can't simulate the high G forces and situational awareness anyway except in air-to-air training. While we make use of a lot of simulators in the fighter

business, we won't go further towards substituting simulator hours for flying hours.

At the other end of the spectrum, you will see very heavy use of simulators in the B–2 to minimize the flying hours required on that airplane for two reasons. One reason is crew coordination and what it takes to have the crew performing the systems operation is so important in an airplane like that, very easy airplane to fly, so that there will be probably an unprecedented use of simulators to substitute for flying hours in the B–2.

We have a full spectrum in between. Generally speaking, larger airplanes with larger crews, we are able to rely more on simulators and less on actual flying hours. So I think that is the trend that you will see.

FUEL PURCHASING

Mr. MILLER. Just one other question. With our energy problem that we have today in the United States, I think most of us are really not facing up to it. We are now importing about 50 percent of our fuel.

It is necessary for you to have fuel spotted all around the world. Are you finding at the present time that, because this fuel is not being purchased from the United States, but is coming from so many other countries, the price is going up? Are we going to see that the fuel costs in your budget will be higher?

Secretary RICE. Well, Mr. Miller, we have I think historically seen fuel prices pretty much track with world oil prices and I would expect we will see that continue. You sometimes see some changes in that marketplace based on the refining side, on refining capacity in different parts of the world, but generally I would expect we will see it track with world oil prices.

If you anticipate, as I do, that we will see oil prices rise again in the future, then I think the answer to your question is, yes, we will see that kind of increase in fuel costs, but that is likely to be true whether we are procuring it overseas or at home.

Mr. MILLER. Thank you, gentlemen. I have other questions, Mr. Chairman, but I will save them for the closed session this afternoon.

Mr. MURTHA. Let me say the closed session will be in Room H–140 and the hearing tomorrow morning is canceled because of the joint session of Congress.

Mr. Sabo.

FINANCIAL CLAIM BY AN AIR FORCE COUPLE

Mr. SABO. Thank you, Mr. Chairman. Mr. Secretary and General, welcome to the Committee.

I have heard through all these hearings from both civilian and uniformed members of DOD that how we treat people is really the most important ingredient. I hate to get to a specific case in these hearings because I have lots of other questions, but out of frustration, I use this forum.

A young Minnesotan was in the Navy and had a daughter born in December of 1987 at Clark AFB, Philippines. Two days after her birth, she was given an adult dose of glucose. The result was that

85 percent of her brain is destroyed. She has a normal life expectancy. This is well over two years ago. The father received a discharge. They moved back to Minnesota. The girl requires 24-hour-a-day care. They live with the parents. They receive public assistance from Minnesota.

Negotiations go on between this family and the Air Force, and I can understand that takes time because the nature of the settlement clearly will be substantial, whether you take the family's claim or the Air Force's proposal.

However, there is authority under law for the Air Force to make an advance payment and it is beyond me why that hasn't happened. As I understand it, you have authority to make up to $100,000 advance payment, which will be a minor part of the eventual settlement. Clearly, the family meets all the criteria for receiving that assistance. There is no question about Air Force liability. They have need of assistance. They have used all their remedies other than the final settlement. Clearly the final settlement will far exceed any potential advance payments.

This case just seems to drag and drag. There are other factors that are unrelated specifically to what happened in the Air Force that make the case even more tragic. I just find it very, very difficult to understand why there doesn't appear to be a little bit more—I don't want to use the word sympathy, because I don't think that is right. Maybe "understanding," in dealing with what is just a very tragic human case and tragic financial case for this young couple who had served in the Armed Forces.

I would hope that it is looked at and that some method of easing what is very substantial human pain can be found.

Secretary RICE. Mr. Sabo, I am quite familiar with the case you are referring to. You are absolutely right. It is a tragic circumstance. It is clear that a mistake was made, unfortunately, in an Air Force medical facility, I believe in the Philippines.

Mr. SABO. Clark Air Force Base.

Secretary RICE. I believe that the father involved was actually serving in the Navy, but that doesn't matter. The mistake was made in an Air Force hospital.

As I understand it, a nurse inadvertently gave a baby a solution at a strength that was intended for an adult. So there isn't any question of the government's obligation in this matter, and my understanding is that in fact the Air Force people responsible for working this believed until quite recently that they, based of course on discussions with the attorney for the family, that they were very close to having a settlement of the entire matter.

When that settlement was offered, we received back a letter from the attorney rejecting that package, which of course was not arrived at unilaterally within the Air Force, but in fact was a result of extensive discussions with the attorney. But that aside, the attorney has asked that the matter be appealed to the Secretary of the Air Force.

As I understand it, because this incident occurred overseas, I, in effect, became the appeal authority on the government side. On the matter of the circumstances of the family, we did determine that there was an overdue hospital bill that was hanging over them. I believe our people have offered to pay that bill.

There was some concern raised that if anything were done to provide them with some kind of continuing support, that that would affect their status for state benefits. But again, all that aside, clearly our preference would be to settle the case. We thought we had done that. We had a basis for doing that.

Now, since it has been appealed, the matter is being reviewed again and the package is being put together to come to the Secretary of the Air Force for a final determination of the government's settlement amount, and that matter has not reached me yet, but I know it is being worked on and we expect it to be up in fairly short order, and at that point it will be, as I understand it, my obligation to make a determination of what is the appropriate amount and in what package of payments in trust on behalf of the child, and cash payments for the parents and for the attorney, and all that together constitutes the total package of settlement that the government would make.

I am not sure I have all of the legal aspects fully in hand yet because it won't be a surprise to you that it came as a bit of a surprise to me that the way the law works that applies in this particular case, I apparently am the appeal authority. So given that, obviously we will have to take that obligation very seriously and will do so, and I hope we can resolve it in very short order now.

Mr. MURTHA. When did the incident happen?

Mr. SABO. December 1987, over two years ago.

Mr. Secretary, I just have to say I can understand that it takes some time to negotiate the final settlement on a case like this. But it strikes me as totally unacceptable, when there is no doubt of liability, that this young family really should be dependent on Minnesota State public assistance and the assistance of their family to survive. They are living with family because they can't afford to live elsewhere. They are dependent on family and Minnesota public assistance for subsistence, and that just strikes me as being totally wrong.

Secretary RICE. Well, this whole matter has come to my attention fairly recently, as you are, I think, aware. As I have already said, we thought we had a settlement. People in the Air Force who worked this thought they had the basis for a settlement.

When that settlement offer was made, it was rejected, and we got a letter back from the family attorney. The amount involved is one that has to be examined carefully, but again the people in the Air Force working this looked at comparison to cases that are resolved in the civil courts where there is not jurisdiction for this case and tried to evolve a standard of equity compared to other similar circumstances.

There is no way, obviously, to make up for what has been done. There is an obligation to make a fair and equitable settlement, and one that is fair and equitable from the point of view of the family and from the point of view of the taxpayer as well.

Mr. SABO. I understand that that takes time and final settlement is probably going to be in the area of $2 million. I am talking about the authority of the Air Force to make advance payments of up to $100,000. In my understanding that authority exists to either make a lump sum or on a monthly basis. I don't understand why none of that has been done in what is now well over two years, I think it is

unfair to the family, to the family's parents, to the state, but most importantly to the young family involved.

Secretary RICE. We will take another look at that, Mr. Sabo, but I think the right thing to do is to resolve this case and get it settled out. As I have said twice already, the Air Force people working it believed they had a basis for that just a month or so ago, and that did not turn out unfortunately to be the case, so now we have to take it to its next stage.

Mr. SABO. I just hope that the Air Force would look at how they deal with the family in the interim while those negotiations go on. I just think it is very unfortunate. I don't know how many other similar cases there are and how claims like these are handled, but if this is the normal process, I think that process should be reviewed.

Mr. MURTHA. Would the gentleman yield?

Mr. Secretary, are you saying that this is a tactic of the Air Force to put these folks in this position so that they settle?

Secretary RICE. No, sir, certainly not. I am saying that the only way you can arrive at a settlement is to negotiate it out with the attorney representing the parties at interest and that as of about December of last year, there was, when the thing first came to my attention, there was the belief on the part of the Air Force people that they had worked out a settlement that was acceptable to the other side.

When that offer was made to settle on that basis, it then was not accepted and we got an appeal letter back.

Mr. MURTHA. Mr. Sabo's point is if under the law there is available an exception which allows you to make advance payment, why wouldn't the Air Force consider this when you are going to settle later on at a much higher figure?

Secretary RICE. Well, Mr. Chairman, we will take another look at that. There is an authority under the law. It is not clear in my mind whether it is wise to exercise that authority. Certainly at the time it came to my attention we thought we had it settled and so it was a moot issue.

If it is now going to drag out for any extended period, we have to reexamine that. We offered to pay some outstanding bills and to take some of those kinds of obligations off the family's back. We will take another look at the advance payment if it is going to take more time.

Mr. MURTHA. It seems two years is an inordinate delay, and I would hope that you would expeditiously either pay these folks an advance payment or settle the claim.

Secretary RICE. We will do one or the other. It does seem like a long time. As I say, it has been on our docket at the level of Secretariat for a couple of months now. Now it has to get resolved, and my understanding is it will come to me quickly for that resolution.

Mr. SABO. These folks are not constituents of mine. I stumbled on the case because I sat next to someone on an airplane who described the case to me. It sounded so blatantly unfair, that two years after this incident happened no payments have been made to this poor, young family living on subsistence, living with parents, that I said, "Contact me."

I discovered negotiations had been going on probably two years, no question of liability, no interim payments being made. You know, any sense of rationale or fairness in the whole process just didn't seem to exist. The situation seems blatantly unfair.

Secretary RICE. Mr. Sabo, I can't undo or redo whatever it was that took the amount of time it has taken to get to where we are. We thought at the end of last year when I believe you first got involved in the matter that we had a settlement. It turned out that is not the case.

So we will make appropriate arrangements to carry it out further or we will resolve it if the authority is there to do that.

Mr. MURTHA. Mr. McDade.

Mr. MCDADE. Nothing at this time.

Mr. MURTHA. Mr. Dicks.

C–17 AIRCRAFT

Mr. DICKS. General Welch, is the C–17 in trouble? As I understand it, we have a delay in the first flight from February, 1990 to not later than June, 1991. That seems to me like a very substantial delay on a program that I understood was in pretty decent shape until you had this software problem.

Secretary RICE. I don't believe the C–17 is in trouble. We did have difficulties in the development with two areas in the electronics, as I think you will recall. There was partly as a result of that and partly as an outcome of the overall development effort, the first flight date was clearly going to be delayed, and I think we knew about the date that you just referred to along about last summer.

As you will recall, this Committee in fact I think took the lead in the Congress to recognize that the state of the program was different than had been expected when we put the fiscal year 1990 budget together inside the department, when our predecessors did a year before that time.

So this Committee made an adjustment to the rate in which the procurement was supported for the program last year and as a result now the front end ramp, if you will, of the initial procurement has been adjusted for the program.

Progress is quite satisfying to date on the two areas where there were problems. In one case, the prime contractor changed subcontractors and the new subcontractor is ahead of schedule. In the other case, the prime contractor stepped in and took a stronger role themselves in the balance of work between the prime and the subcontractor, and that, too, is now proceeding much better than it had appeared to be a year ago.

The C–17 is a top-priority program for us. It is, as General Welch said before, the only new airlifter coming along. It will have to do the same work that we have depended on a range of three aircraft to do in the past. It has qualities that will allow it to provide us with much more efficient delivery of forces to a wider variety of places around the world. So we see that as a very high-priority program.

I continue to believe we have to keep our oversight very strong and keep the scrutiny close on that program. The prime contractor

has been through a reorganization now I think over a year ago in their main division responsible for this program. That may well have contributed to some of the delays that have occurred in the program.

Again, that reorganization seems to be behind them now, and they seem to be moving along at a better pace. I think none of us can let up on careful scrutiny and oversight of this program.

Mr. DICKS. Is the requirement changing? We saw the importance of airlift in the Panama operation, but we don't have the same responsibility potentially in Europe, getting ten divisions in ten days. Is there a requirement for a new airlifter? Could you just get along with the C–130s, the C–141s and the C–5s?

Secretary RICE. We have had the standard, if you will, to deploy 10 divisions in 10 days to Europe, but never had the ability to do that. The 66 million ton miles a day goal was always an interim goal. The actual requirement was a substantially higher level than that depending on the scenario you were examining.

Take the Panama case, for instance. We deployed to Panama about a division and a third of very light forces, and in fact deployed them far lighter than even those light forces would go if they were to go somewhere else in the world where there was not so much prepositioned or predeployed.

We had about half the forces to be used in the Panama episode already in place in that country and had a lot of the equipment predeployed or left behind because it wouldn't be needed for the nature of the operation. It still took us about a quarter of the organic strategic airlift force to make the——

Mr. MURTHA. A quarter of the entire airlift?

Secretary RICE. That is right, of the entire organic strategic airlift capacity to do that rapid deployment to Panama in a 30-hour period.

Mr. DICKS. In the United States or worldwide?

Secretary RICE. Worldwide. Twenty-five percent of the total worldwide strategic airlift capacity. If we had had to make that deployment to Panama with nothing incountry ahead of time, it would have taken I believe more like three quarters of the total capacity and they would have had to do two cycles in that roughly 30-hour period. Each airplane, three quarters of the force, would have had to go down, turn around and come back and get another load and take it down again to deploy everything that was used in the Panama exercise and JUST CAUSE if we had not had such a large amount there to begin with.

I believe we are very short on airlift for the kind of contingencies we are going to face in the future, the quick reaction capability to insert forces in a hurry.

Mr. DICKS. Some will say, could we start up the C–5? I would not recommend that but that is going to be a question we face mainly because the C–5 is so expensive to operate.

Secretary RICE. Yes. It is not clear there would be any significant cost advantages to reopening the line and the C–5 clearly has the operational limitations that we are trying to get beyond with the C–17 in terms of multiple airfield availability and through-put on the ground when you get there.

Mr. DICKS. So bottom line you think the C–17 is still a priority?

Secretary RICE. Yes, sir.

Mr. MURTHA. The Committee will adjourn and reconvene in closed session in Room H–140 at 1:30 p.m. this afternoon.

AFTERNOON SESSION

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

I want you to know, Mr. Secretary, this is an inauguration of our refurbished room here. We shouldn't be able to hear all that traffic outside now, and with the many hours we spend in here it is now a little bit better-looking room. We haven't gotten everything finished yet, but you are at the inaugural event. This room was the same for 25 years.

We are in a closed session now.

PANAMA JUST CAUSE OPERATION

Let me ask you about the F–117A.

When I was at the Brooks Hospital in Texas one young fellow who was paralyzed from the waist down said, "You know, we were prepared and were briefed thoroughly." Three young men I saw who were in the hospital knew exactly what they were doing and they knew they were liberating Panama and their morale was very high, even though, in my estimation, they sacrificed. One was paralyzed from the waist down, one lost a leg, and one's leg was shattered.

The one who was paralyzed said, "We were supposed to see a flash, hear an explosion, and then we were supposed to jump in and the fire was supposed to be suppressed by this explosion."

I have seen all the reports in the paper and I heard the report that the CEP was zero on the bombs dropped by the stealth fighter, that went down there. Did it, in fact, hit where it was supposed to hit? Was the CEP within your guidelines and, if so, did it suppress the fire? In other words, did it work as it was supposed to work?

General WELCH. As you suggest, the answer to your question directly, the bombs hit exactly when they were supposed to. The first bomb was one second early. The second was two seconds late. That is very close to exactly when.

Mr. MURTHA. Was it two 2,000-pound bombs?

General WELCH. Yes, and they were located where they would create the diversion and get everybody's head between their legs, which they did, but not so close as to kill anybody in the compound. Our objective was to have as many people as possible with their head between their legs.

At the same time, we were in a strange situation. We wanted to totally suppress these people, and three days later, we wanted them to be our friends because that was the objective of the mission. The bombs hit exactly where they were supposed to, as nearly as we can determine, and the commander on the scene confirms that they did what we expected them to do.

Mr. MURTHA. You could have hit the building if you had wanted to.

Secretary RICE. I don't think there is any doubt whatsoever about that, Mr. Murtha.

General WELCH. Absolutely, but that would have been totally contrary to the objective of trying to minimize the casualties on both sides, realizing that we wanted these people to be our friends three days later.

Mr. MURTHA. What was the mission profit, where did they fly from and how many times did they refuel and how did they get back?

General WELCH. They flew from Tonopah, Nevada, two F–117s. ———.

Secretary RICE. The number of refuelings, you have to be a little careful with that number, though, because at least, as I understand it, the operational plan was to always have enough fuel to recover back to the CONUS base so that they did more refueling than they would have had to do simply to cover that distance.

Mr. MURTHA. Was there anything that didn't work right?

General WELCH. No, they performed exactly as we had hoped they would.

Mr. MURTHA. Flying and so forth, I know many of your airplanes are unstable today and need computers to maintain flight, but this performed as you expected?

General WELCH. We recognize that this is first-generation stuff in this airplane and at the time we designed and built the F–117, we didn't know how to integrate high-performance maneuverability, supersonic flight, long-range stealth, and load-carrying capacity in a single airplane, so as a consequence, we sacrificed on some maneuverability in order to get the range and the payload and the stealth. ——— but those are built into the flight control computer, so as far as the pilot is concerned, it does not present a problem for him. ———. Subsequent aircraft have overcome those limitations.

Mr. MURTHA. The one who lost his leg said he was hit by his own helicopters, and five people around him were killed by U.S. fire. Do we have many instances of that where the Air Force was flying close air support and we had U.S. Air Force personnel killed by United States airplanes?

General WELCH. I know of no cases where any helicopter attacked any friendly troops, partly because the aircraft in support of the operation were so tightly under control of the ground commander.

For example, we had other fire power available, but it was under the control of the ground forces commander, so it was not called in unless specifically asked for. Gun ships were used against specific targets, again under very close control.

But if you consider the nature of this aircraft, night airdrops, night helicopter assaults, all into objectives that the troops had never seen before, while there were regrettable operational losses, they were absolutely minimal considering the complexity of this operation.

Mr. MURTHA. I agree. My experience in combat is there is tremendous confusion and most of these people were experiencing

combat for the very first time. So there is no question in my mind that it was complicated and they did a magnificent job.

Mr. McDade.

REBUTTAL OF 60 MINUTES PROGRAM

Mr. McDADE. Thank you, Mr. Chairman.

Mr. Secretary, I would be grateful if you would send the Committee a point-by-point rebuttal of the program that aired on "60 Minutes".

I didn't see it, but I have heard conversations about it. We don't have to tell each other, and General, I appreciate your comments about the fact that the Air Force couldn't be a participant, because you didn't feel you would be treated fairly.

Nonetheless, that program aired to a huge audience, so we need to get a detailed, point-by-point—I would appreciate it, too, if you would tell us who the people are. I know that one of them is identified as working for the Air Force and you said he was someone in financial planning who was not cleared for it.

If you would give us a point-by-point on it, that would be very helpful. Just deliver it to the Committee and Members who want to see it can pick up a copy. Try to rebut some of this stuff they threw around, please.

[The information follows:]

Point 1. The Pentagon has requested just five B–2 bombers in fiscal year 1991 at a cost of $5.5 billion. The works out to more than $1 billion each.

Counterpoint 1. Average B–2 unit flyaway cost in fiscal year 1990 constant dollars is $290.0 million each for a fleet of 132 aircraft. Annual budget requests cannot be tied to per unit cost. The fiscal year 1991 request of $5.5 billion includes $1.5 billion for RDT&E, $2.5 billion for B–2 production, $1.3 billion for advanced procurement and initial spares, and approximately $0.2 billion for military construction. It is important to point out that early production items are always the most expensive. As the learning curve and production efficiencies improve, combined with economic buy rates, the unit cost will decrease.

Point 2. The B–2 has no mission. Its most important mission is to fly into enemy territory, but only after an exchange of missiles, to rearrange the nuclear rubble.

Counterpoint 2. The B–2's mission is continued successful deterrence. The continued viability of the strategic Triad requires that the bomber leg be modernized. The B–2's combination of low observable attributes, advanced avionics, and long range will provide assured long-term penetrativity to hold at risk a wide variety of targets considered most valuable by U.S. adversaries. If the B–2 is not procured, the total bomber force by the turn of the century will be less than 200 and half of that force will be 40 years old. Continued atrophy of the bomber leg will mean eventual disintegration of a balanced Triad and our inability to maintain an adequate strategic nuclear deterrent.

In addition to its critical role in the Triad, the B–2 will also provide unparalleled capabilities to support global conventional power projection across a wide range of conflict scenarios. As numbers of overseas bases and forward-based U.S. forces decline, a flexible, long-range bomber force capable of rapidly delivering massive firepower against an enemy's most valued assets will become increasingly important to protecting U.S. global interests.

Point 3. The Air Force already has a bomber to perform the penetrating bomber role—the B–1B which is less than 5 years old. What can the B–2 do that the B–1B cannot?

Counterpoint 3. The B–1B was rapidly procured and deployed to redress the declining penetration capability of aging B–52s and to allow time for orderly development of B–2 stealth technologies. Although it is an excellent penetrating bomber today, the ability of the B–1B to penetrate the most heavily defended regions of the Soviet Union will be significantly degraded in the late 1990s as Soviet air defenses continue to upgrade. Only the B–2 will combine long-term penetration capability with the growth potential necessary to counter air defense advancements, thereby continuing to hold the most critical targets at risk.

Point 4. The large, ungainly B–2 is not invisible to radar and can be tracked by any number of existing radar systems. The Australian's Jindalee radar can track the B–2 at ranges of 1500 miles.

Counterpoint 4. The Air Force is well aware of the capabilities of high frequency (HF) radars such as the "Jindalee" system. HF systems are capable of defecting aircraft at long ranges, but they have several limitations. First, they are severely impacted as a result of changes in the earth's ionosphere. These changes can result in outages which render an HF system unusable for days at a time. This problem is further complicated in a nuclear environment when the atmosphere will be so disturbed that HF systems will be totally unusable. Secondly, target positional accuracy is limited because HF radars use waveforms and long pulses that result in a high degree of uncertainty. This positional uncertainty is several miles in radius. Lastly, because HF radars are large, fixed systems, they are vulnerable and easy to strike with several weapons.

Point 5. The stealth bomber was designed to counter certain types of radar, but cannot counter all radars. Therefore, the Soviets need only shift to those radars that can detect the B–2.

Counterpoint 5. Since the inception of the F–117A program, the Air Force has had an "anti-stealth" team consisting of PhD-level engineers and scientists investigating all means for countering stealth technology. The goal has been to find the "Achilles' heel" which will negate the value of stealth technology. The team has looked at over 40 different concepts that have been proposed to defeat stealth. While the Air Force has acknowledged that systems and techniques do exist which can detect stealth technology, field tests, calculations, and computer models have demonstrated that the bomber's survivability is not seriously threatened by occasional detections or sporadic tracking. This analysis, combined with extensive experience with programs such as the F–117A and the advanced cruise missile, has convinced the Air Force that, for the foreseeable future, no "Achilles heel" exists which will negate the value of stealth technology.

Point 6. The B–2 will be a sitting duck for Soviet fighters.

Top speed of only 580 MPH.

Not very maneuverable.

No defensive weapons.

Counterpoint 6. This statement overlooks several factors necessary to solve all the problems associated with detection, tracking and kill of any aircraft. The key questions that must be asked are: (1) Does a defensive system exist which detects the B–2 at sufficient ranges in all types of weather and atmospheric conditions, day or night? (2) Does this system provide adequate track information (suitable length and accuracy) to vector a fighter? (3) Does the fighter have sufficient means to acquire the B–2 with onboard systems (radar, infrared or visual)? and (4) Can the fighter employ a kill mechanism (missiles, guns) which threatens the B–2? If the answer to any of these questions is "no," then a viable defense does not exist. There exists no such system today or in the foreseeable future which allows someone to answer "yes" to all of the above questions.

Point 7. The B–2 is already in production, yet not properly tested against radars and won't be for some years (probably because of fear of failure). The Customs Service has airborne systems that could be used in a test in a matter of weeks.

Counterpoint 7. Over the last 7 years, the Air Force and Northrop have conducted the most extensive risk reduction effort ever undertaken for any aircraft development program. This included detailed testing of all low observable aspects of the aircraft and used modeling and other simulation analysis with realistic threat data. Low observability flight testing of the B–2 over instrumented radar ranges will begin in 1990.

Point 8. Representative Synar has been trying for years to pin the Air Force and Northrop down on B–2 costs. The purpose of keeping the B–2 budget black has been to stifle public debate.

Counterpoint 8. Congress has been kept well informed on the B–2 program since inception in the late 1970s. One hundred and seventy Congressmen and their staffers, including fifty-three Senators, have been involved in program decisions. Since 1979, 150 members of Congress and staff members have made over 350 visits to the factory. In addition, the Government Accounting Office has had an office in the B–2 factory since program initiation and has provided periodic reports to Congressional committees.

Point 9. Representative Synar says the argument can be made that the other types of aircraft necessary for our national defense will not be built in the 1990s because of the excessive cost of the B–2.

Counterpoint 9. There are no other aircraft more important to this nation's defense than the B-2. It is critical to the continued viability of the strategic Triad and nuclear deterrence.

Point 10. Michael Dennis says his analysis shows "a total adjusted B-2 program cost of $110.0 to $120.0 billion . . . the Congress is being lied to the tune of $40.0 to $50.0 billion.

Counterpoint 10. In May of 1989, the Secretary of Defense baselined the B-2 program at $70.2 billion in then-year dollars. This was done based on the Defense Acquisition Board recommendation following an extensive cost analysis review by both the Air Force and OSD. This baseline cost assumes a stable program. It includes savings from cost reduction initiatives (CRI) and multiyear procurement.

Point 11. Who will we use the stealth against in the foreseeable future? The B-2 lacks an enemy to attack.

Counterpoint 11. Contrary to what many believe, the potential Soviet nuclear threat to this nation has not diminished—the Soviets remain the only country capable of threatening our very existence. The U.S. military must base its long-range planning and budget requests on capabilities, which cannot change quickly, rather than on intentions, which can change overnight.

The United States will also continue to face many security challenges from nations with increasing arsenals of high technology weapons in other, even less predictable areas of the world. The combination of European and Soviet instabilities, continued threats from other regions of the world, and reduced overseas bases and forward deployed U.S. forces will present new challenges for our military forces. The flexibility offered by the revolutionary B-2 will help provide deterrence across the entire spectrum of conflict and enable responses to aggression ranging from limited conventional operations up to global nuclear war.

ADVANCED TACTICAL FIGHTER

Mr. McDADE. Turning to the ATF, last year, you worked very vigorously with the Committee to try to get our arms around a program that we were all concerned about because of the resources involved.

Do you know what the current schedule is for the ATF downselects for the engine and airframe? When are they going to take place?

Secretary RICE. You are asking for the completion of the down selection which will culminate in the selection of the contractor team to enter into full-scale development.

That is now scheduled to happen in the second quarter of calendar year 1991. So a little more than a year from now.

Mr. McDADE. How long after that do you think you will actually have the flight demonstrations taking place?

Secretary RICE. The flight demonstrations, of the two hardware demonstration articles, prototypes, will be occurring this year.

Mr. McDADE. When will you do those?

Secretary RICE. I believe that one contractor team plans to fly this spring——

Mr. McDADE. Instead of me trying to ask you individual questions, would you refresh us on where you are with the ATF and what is going to occur in the next two-year cycle?

Secretary RICE. We are in the demonstration/validation phase. That is the period in which we try to check out the various technological accomplishments that have to be made, go through the proof of principle, go through the demonstration and hardware of the key technologies, make the design and requirements tradeoffs that have to be made in order to keep costs under control on the one hand, and assure that we have a set of specifications as we enter into full-scale development that our confidence can be achieved during the development process.

That is being carried out in this case with two contractor teams, each one of whom is building a prototype air vehicle.

The purpose of that air vehicle is not really to do a competitive fly-off, but to provide demonstration in hardware, validation in hardware of the technical achievements that they will be proposing and providing otherwise proper analytic back-up for in their proposals to proceed into full-scale development.

The two-contractor teams not only have to provide these demonstration vehicles, but they also have to work out the avionics suite to go into the airplane and they have to satisfy the additional requirement that a carrier suitable design be provided for the Navy application of the ATF.

All those matters have to be resolved as part of the down select and before the commitment to full-scale development. The Navy, in fact, is serving as the Vice Chairman of the Source Selection Committee for this program.

So we expect the one-contractor team will fly for the first time probably this spring. The other contractor team will probably not fly certainly until later in the year, we hope by the late summer, early fall. As you will recall, we extended the DEM/VAL phase six months. That effectively defers the start of full-scale development six months. We did that last summer.

That, we believe, will allow us enough time to complete this hardware demonstration phase, go through all of the remaining technology tradeoffs that have to be done and requirements tradeoffs that have to be done, and satisfy the Navy requirement before the final selection is made and the commitment is made to full-scale development.

We will have several months of flight experience with each of the contractor team's airplanes before we have to make the down select and at the time the schedule is to begin full-scale development July 1, 1991, so that would have the full-scale development starting in the final quarter of the fiscal year 1991 budget that you have before you. The full-scale development program then stretches out over several years.

We have, I think, carefully developed now a low-rate initial production and then a later build-up after adequate testing is accomplished, kind of schedule for the production, and with all that laid out the way it is we don't get to the first operational squadron until close to the end of the decade. It takes until 2002 to get two wings.

Mr. McDade. Requirements are the same, roughly 700 Air Force and roughly 500 Navy?

Secretary Rice. Those are still the requirements at this point.

In this area as in many others that are involved in our planning of new systems and existing systems in terms of the ultimate quantities to be purchased, we are going to have to reassess that as we go through this revising of the force structure.

At this point, it stills looks like a good call that we ought to be headed ultimately for seven wings in the Air Force, which is where that number comes from for the Air Force side, but we will have to keep that a subject we will continue to reassess depending on what we determine will be the ultimate force size.

There certainly are some levels of a fighter wing force in the total force for the Air Force that would lead us to reassess that. At this point, we hope we can keep it at seven wings.

Mr. McDADE. Anything you think would change the unit cost dramatically at this stage?

Secretary RICE. Not dramatically; no, sir.

Mr. MURTHA. If the Navy didn't buy their share?

Secretary RICE. The program is laid out on the basis of the Air Force being able to go it alone; that is, our unit cost projections, our unit cost goals and our cost projections are not dependent on the Navy taking some share of the production line.

We certainly expect that as the teams will demonstrate next year that there will be a carrier-suitable variant, high commonality, the airframes will be different because the requirements you have to have in aircraft design to come aboard are different than what the Air Force needs, but we hope to be in the 60 percent or higher range.

Mr. McDADE. When you go to the down select and decide which of the competing teams you are going to invest in, does the Navy have to be onboard at that time?

Secretary RICE. Yes, sir. They are the Vice Chairman of the Selecting Committee.

Mr. McDADE. So if the Navy had a problem you couldn't go to a final selection, could you?

Secretary RICE. The Secretary of Defense has laid on the requirement. It was done by the previous Secretary, but I am sure will be reiterated if necessary by this one, that there must be a certification that there exists a design that meets the Navy requirement as part of the down select and the commitment to full-scale development.

Mr. McDADE. So that the problem will be cured by that time if there is a problem between the two branches on differences, that is the end of it?

Secretary RICE. We fully understand that it is necessary for the two services to come together, to be able to certify that both services' requirements will be satisfied by the development program that is going to be kicked off.

PROTOTYPE STRATEGY

Mr. McDADE. The chairman and I talked about one of the differences in this program about going for prototypes.

Last year, the Committee reversed a decision that was made over there and decided to go for prototypes in competition on competing helicopters. You know, here we are going to the ATF and we are going for prototypes.

We understand that that may be exactly the way to go and maybe it avoids the problems that you get when you buy a B-2 and don't first get the prototype. What is your comment on that?

Secretary RICE. The prototype strategy is, I think, a very important element of any good acqusition strategy. It doesn't apply every time. It would have been very difficult for me to envision how one could have even conceived prototying a program like the B-2.

Mr. McDade. What about the stealth fighter that was used in Panama?

Secretary Rice. Of course, it was developed in a very different kind of acquisition strategy, a skunk works black program.

Mr. McDade. No prototyping there either?

Secretary Rice. No. There was, however, earlier hardware demonstration of stealthy vehicles and so while there wasn't a formal prototype or there certainly wasn't a competitive prototype program, there was demonstration of the accomplishments of low observable in prior programs that had been—I guess I am not sure ———. General Welch might remember.

General Welch. It was the same company.

Mr. McDade. So they cranked out a couple of things to show you what they though they could do and based upon that, you developed the fighter. What would be the analogy—why don't you buy a prototype and get a plane——

Secretary Rice. Remember what the purpose of prototyping is. It is to demonstrate in actual hardware the accomplishment of at least a number of the key technological advances that have to be achievable in order for the program to be successful.

In this case, we are talking about a highly manuverable fighter; quality, low-observable design. As General Welch was just suggesting in comments about the F–117, that certainly represents a new level of accomplishment in airframe design and these two contractor teams have somewhat different design approaches to it. When you look at the two airplanes, they don't look identical.

So we will have a demonstration in actual hardware as a result of the prototypes if that is the word—that is the advantage, that you have higher confidence going into full-scale development because you have been through that hardware demonstration.

Mr. McDade. Why not do it every time? We have a GAO report up here that I am sure you know about, all on the issue of the DOD and the Air Force in some instances buying equipment without buying a prototype and testing it, fly before you buy, all those things.

Where does this dichotomy occur when you do or you don't? What is the rationale for yes or no?

I am sure you have comments to the GAO report prepared. If I ask you when do you get a prototype and when do you not, tell me what the parameters are.

General Welch. I think it is a cost versus risk calculation. For example, on the F–117, the risks were fairly high. On the other hand, that was recognized as an experiment by the Congress and by the Air Force, and we didn't commit ourselves to any specific number of airplanes until we had indeed built a prototype.

Our concern there was whether or not we knew how to build a stealthy aircraft that was flight-worthy. It was fairly basic. Once we demonstrated that, then we were confident enough to go along with a limited buy and we bought only two squadrons. We originally intended to buy only one squadron. It worked out well enough we bought two.

In the case of the B–2, lots of technology was involved. Our choice on the B–2, instead of a prototype, was an intensive front-end risk reduction program where we addressed ten separate tech-

nologies that had to be demonstrated as separate technologies before we proceeded with the airplane. A full-scale prototype——

Mr. McDADE. Enumerate a couple of those.

General WELCH. Manufacturing technology to lay up complex shapes and composite materials; very tough problem.

Mr. McDADE. Put them in the record for us at this point.

[The information follows:]

The technologies addressed in the front-end risk reduction program for the B-2 include:

1. Low-altitude ride quality—The low-altitude ride quality for an aircraft with low wing loading.
2. Avionics--the ability to communicate and navigate using a low observable antenna, the design of a suitable low observable antenna for the radar, installation of the radar antenna/radome into the airframe, and the software required to manage and integrate the avionics.
3. Nuclear hardness—The ability of the aircraft's material to withstand the thermal, dust, and gust effects in a nuclear environment.
4. Composite wing—The manufacturing of large, high quality graphite epoxy structures at an acceptable cost.
5. Manufacturing technology—The ability to manufacture complex low observable materials, specifically in the areas of handling, matching, and material bonding.
6. Engine development—The ability of the engine to be stable and durable at both low and high altitude.
7. Inlet and exhaust nozzle design—The ability to attain low observables and engine performance compatibility.
8. Observables signature reduction—Defining a radar cross section, infrared signature, visual profile, etc., design to provide high- and low-altitude survivability.
9. Threat assessment—The ability to have a good intelligence estimate and a flexible response to changing threat environments (selection of the most flexible Defense Management System).
10. Configuration trades—To derive the optimum configuration in terms of aircraft performance, size, and other characteristics.

Mr. McDADE. Go ahead.

General WELCH. We were content, having spent almost two-and-a-half years on the effort I just described, that we had those high-risk things in hand. A full-scale prototype followed by a stop in production would have been prohibitively expensive.

In the case of the ATF, we were asking the contractors for a vehicle that is highly maneuverable, low observable, cruises at supersonic speeds, and has a very high degree of avionics. So because of those special demands, we put the DEM/VAL program on the front end of that to reduce the risk once we got to full-scale development.

Given the overall funding required to do that overall program and the contractors' willingness to commit an awful lot of their own resources to that program, that seemed to be a very cost-effective thing to do and that is what we want to see actually flown. We want to see an airplane flown that cruises at supersonic speed, that is highly maneuverable, et cetera.

We needed to demonstrate that because of the combination of fairly high-risk things that we are asking for. I think it is strictly the cost of the prototype versus the risk if you don't do it.

Mr. MURTHA. If the gentleman would yield, even the way the B-2 is working out, the fact that we are going to build many less than anticipated, you still feel that it is cheaper to go the way we went rather than with the prototype?

General WELCH. Yes, sir.

There is nothing going on at this time in the B-2 program that would cause us to believe that we would have gained from having

flown a full-scale prototype and then shut things down while we tested it. That would be terribly expensive and things are going very well.

Mr. MURTHA. You are saying it depends on the numbers because you couldn't have any more new technology than you have with the B–2?

Secretary RICE. Mr. Murtha, I would say it differently. Numbers are one factor to take into account. I think what we are trying to say is, in our view, hardware demonstration ought to be a requirement for every new program.

Whether it takes the form of full prototypes of, say, an airframe in the case of an aircraft or a full-up system in the case of a full platform in the case of some other kind of system depends, I think, in part on what you are asking of it, how demanding are the individual, and how numerous are the advances, that you are asking be incorporated in that vehicle.

If all of the advances are internal things and relatively few in the platform itself, you may be able to do all the hardware demonstrations in the form of demonstrating that you can manufacture pieces, demonstrating that individual electronic components or other kinds of subsystems will do what they are supposed to do and have high enough confidence that in the engineering development process, you can bring all that together in a system.

In the case of the ATF, the judgment was made—and it is a judgment call; I think a sound one in this case—I think given what was to be accomplished, and General Welch enumerated the aspects of it, that it was quite a prudent thing to do to get a full demonstration article for the airframe engine combination.

We won't have all the avionics demonstrated in the prototypes, but the airframe demonstration was enough of an advance in enough different areas that it seems to me it was prudent to do a prototype.

Mr. MURTHA. Do you have an analysis that shows it was cheaper to go the way we went with the B–2 even though we are going to build a lot less of them?

Secretary RICE. I don't think the number built would change the equation very much. The problem there is that because of the nature of the airframe, the scale of the vehicle, it would have been very expensive to do two alternative designs and take them both all the way to a flying vehicle, and then, in effect, stand down whatever manufacturing process you had put in place in order to get their——

Mr. MURTHA. Are you saying that the fact that it flew with relatively insignificant problems proves your point? Is that what you are saying?

Secretary RICE. I would say it weighs on that side of the argument. We ought to see more of the flight test program than we have seen so far to be conclusive about that, but, yes, it argues in that direction.

Mr. MCDADE. You had indicated that we would have the engines and the airframes pretty well figured out, but not all the avionics. One of the continuing problems that we get here is software. How can we be sure that the software problem in the ATF is not going to rear its head?

Secretary RICE. We have flying testbeds, a lot of advanced development work going on in components of the avionics. We have a lot of attention being paid to the software problems.

So we have to have concurrently with the conclusion about the airframes, as we down select and as we make the commitment to full-scale development, we have to have confidence that we have in hand the technological advances that are required to be incorporated in the avionics system.

What I meant was that we will not have fully-developed avionics fully integrated into the airframes when they fly.

Mr. MCDADE. But no software problem?

Secretary RICE. You are never going to get me to sit and say there are no software problems. You will get me to say, and what I believe is that as full-up an effort as we know how to mount is underway to work those problems in advance.

We have still got another year plus to go, and we understand we are obligated to answer the questions about that as well as the other areas satisfactorily before commitment to full-scale development.

Mr. MCDADE. Thank you.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

COST OF THE B–2

Mr. DICKS. Thank you.

Let's go back to the B–2. Has the cost of $70.2 billion increased this year because of the stretch in the program due to Congressional action?

Secretary RICE. The number is higher for two reasons. One, because the Congress funded a smaller number of aircraft in 1990 than had been in the profile that the $70.2 billion is based on; and the second reason is because we now have a new set of inflation numbers from the OMB to use for the outyears of the program.

In constant dollars, the number changes only a modest amount to reflect that part of that program change. In current dollars, then-year dollars with the inflation in, the total is now $75-point something—I forget after the decimal point.

Mr. DICKS. So it is up from $70.2 billion to $75 billion something? What was the original estimate; $36 billion?

Secretary RICE. The number that I think you are remembering in constant dollars, in 1981 dollars——

General WELCH. Thirty-six point six was the original cost in baseline 1981 dollars.

Secretary RICE. And that number is today up in the low forties someplace.

I can get you the exact number.

Mr. DICKS. Get us that for the record, too.

[The information follows:]

Baseline program costs are expressed in fiscal year 1981 dollars. The original baseline cost for the B–2 was $36.6 billion. The $70.2 billion figure is equivalent to $43.8 billion in baseline dollars. New program cost figures are being finalized to reflect the congressional reduction in fiscal year 1990 and the new OMB inflation figures. Although not yet firm, the new cost should be around $75.6 billion, or $44.4

billion baseline dollars. The small growth in baseline figures, $0.6 billion, shows that almost all of the cost growth is due to changed inflation indices, a "paperwork" exercise, if you will.

MISSION OF THE B–2

Mr. DICKS. The other problem with this airplane is communicating the mission. We talked a little bit about this this morning. My colleagues up here are having a difficult time understanding the mission of the B–2.

Could you, General, take another crack at laying out, maybe in kind of specifics, one, two, three, four, five, the things that it does and why it does it better than an ICBM or a SLBM or a cruise missile carrier? A big part of this test this year is going to be can we convince our colleagues that the mission is worth the money.

General WELCH. Yes, sir. We define the deterrent task in terms of the targets that we need to cover, the conviction being that if the Soviets are convinced that a retaliatory strike on our part will destroy those targets, that the Soviets will not contemplate opening the attack in the first instance.

To put it in simple terms, we judge our ability to deter by our ability to cover those targets. So we are handed a set of targets. When we then calculate the best way——

Mr. DICKS. That is in the SIOP?

General WELCH. Yes, then when we calculate the best way to cover those targets, some of them are time-sensitive. ——— are not.

Mr. DICKS. ——— of the SIOP?

General WELCH. Are not time-sensitive. ———. I want to try to keep this in deterrent terms.

No one in this room would be comfortable if someone were to say to you that Washington, D.C. will not be attacked in the first hour. ———. That doesn't make any difference to the individual who is contemplating being attacked.

So, from a deterrent standpoint, it is not important when the target gets attacked. It is important that you feel a great certainty that if you initiate the attack, that your targets will be destroyed.

So ——— of the targets are not time-sensitive from any standpoint. If you look at what is the most efficient way to cover those targets, you very quickly will opt for the manned-penetrating bomber as the most efficient way to do it.

One, it can cover any target anywhere without limitation if it is something like a B–2.

Secondly, you can cover the target with fewer weapons with a manned-penetrating bomber than with any other system because it is highly accurate and carries the largest warhead.

Thirdly, because you can make some occupancy checks before you actually expend a weapon against a target, you can actually cover more targets than you carry weapons.

The Soviets know that and once again, I want to keep this out of the context of trying to describe what happens if deterrence fails and we are over there in the rubble.

The point is to ensure that the Soviet decisionmaker calculates how much damage will occur from the B–2 if, indeed, they initiate an attack. So a manned-penetrating bomber covers the most tar-

gets with the least weapons and can actually cover more targets than it carries weapons simply because it can make an occupancy check.

It is not a matter of wandering around over the Soviet countryside looking for an ICBM. It is a matter of known locations which may or may not need to be attacked, depending upon what is there.

RELOCATABLE TARGETS

Mr. DICKS. I just went out to look at a lot of our ———. Last year we got into this question about relocatable strategic targets, the SS–24's and 25's.

It seems to me that ———?

General WELCH. Yes. There is a tendency when you say relocatable for people to think in terms of mobile missiles.

That is a class of relocatable targets. Other classes are very important. For example, Soviet ground divisions which may or may not still be in their garrisons. There are ports which may or may not be occupied by Soviet vessels.

There are airfields which may or may not be occupied by Soviet bombers, so the point is that in addition to those things that move around a lot, there are known locations which may or may not contain something worth attacking. If you have to cover all those targets with ordinary, dumb warheads, then you have no choice than to target every one of them, which wastes a lot of warheads.

Mr. DICKS. If the division isn't there, you don't bomb it.

General WELCH. You go on to another target. So there is that class of relocatables that is most efficiently covered by something with someone in it who can say, "Yes, the division is or is not there."

Let me turn to mobile missiles because that is a class of relocatables. ———. The fact that we can do that impinges on the Soviet decisionmaker. ———. That, in itself, introduces great added uncertainty. However, I don't want to overadvertise ———. That is not a trivial matter.

Mr. DICKS. ———.

Is that accurate in your mind?

General WELCH. ———.

Mr. DICKS. So there is no deficiency in the B–2 itself, the radar isn't inadequate or anything else, to go out and to get their SS–24's or SS–25's if we can locate them? There is no deficiency in the bomber?

General WELCH. No. There are further improvements that could be made. You could have a radar with greater fidelity, but, no, there are no deficiencies in the bomber.

Some will argue that you don't really want to embark in a race with the Soviets to develop a capability to attack mobile missiles. That is above my pay grade.

The point is, though, that if you wanted to spend the money, you could do it. I don't recommend we do, personally.

MILSTAR PROGRAM

Mr. DICKS. I personally agree. This was a major attack last year on this system is it was advertised to be able to go after relocatable

targets and the strategic relocatable targets and it can't do that. I want to get on the record that it can go after relocatable targets.

One thing that would help on that connectivity is MILSTAR. I talked to you before this hearing. MILSTAR looks to me like we are going to have a train wreck on April 1 here unless the administration comes to grips with this and decides what it is going to do with the Congress.

I realize we can't discuss certain aspects of this program at this level of classification, but, Mr. Secretary, don't we have a responsibility here to make a decision? Don't you and Secretary Cheney and General Welch have to get together and decide if we are going to do this? If you are not, are you going to try to get relief from the restrictive language of last year?

It seems to me this program is of considerable significance and importance. I realize that it is expensive. But we have a real conflict here and it seems to me that the capability this system provides generally is pretty significant and we ought to try to work out some arrangement between the administration and the Congress and work our way out of what looks to me like a very unfortunate situation.

Do you want to comment on that?

Secretary RICE. Well, I agree with a lot of your assessment there, Mr. Dicks. MILSTAR, it seems to me, is what we colloquially call in our Pentagon program planning, a broken program at this point. There is a legislated requirement that we not obligate additional funds beyond April 1st of this year unless there are additional matters committed to and those involve substantial amounts of additional money, which we don't see a way to find in the budget at this point.

So there has to be a process of the administration and the Congress coming together to resolve how that program is to proceed sometime between now and April 1st or perhaps a little thereafter.

Certainly there could be enough funds obligated before April 1st, that could carry it somewhat beyond April 1st, so I am not sure it has to be settled immediately by April 1st, but early this year.

Mr. DICKS. One of the problems is this program has been delayed, stretched, there were problems at first. It seems to me that one possible way out of this would be a compromise where we say we are going to go ahead and commit ourselves to the basic capabilities without the extra capability, and then work out a schedule to get those funded over a certain period of time where we would have one satellite per year and get our constellation up there.

Do you think that could be a possible way out of this and could you give us your view of the status of this program, where we stand on it?

Secretary RICE. The kind of thing you have suggested, to proceed without the additional aspects of the program, could well be a basis for a resolution of the matter. The program status is that from a contract management point of view, we continue to see increases in the cost of the MILSTAR satellites. Our projections are that they will stay within what we have budgeted for the program. But the contractor is clearly up in the share line on the contract, and from that point of view there is also a question that we will have to deal with in this process of arriving at a resolution of how the program

proceeds. We will have to be sure we have an option to proceed with that the contractor——

Mr. DICKS. I have talked to the principals on this. They feel that they can do this. The fact is that they are making some very significant reductions. If we don't have program stability, it seems to me that that is going to be torn up if we don't get this thing straightended out quickly here.

Secretary RICE. The issues of program stability go beyond cost and into issues of technical feasibility and disruption of the program, no doubt about that.

Mr. DICKS. General Welch, do you have a comment on MILSTAR? Are there any other capabilities that we could turn to if we didn't have MILSTAR?

General WELCH. Clearly if you don't have MILSTAR, you give up some very, very important communication capabilities. The MILSTAR program with the capabilities that we had asked for in my view is a perfectly adequate capability and what breaks the program in our view is the added burden that would be laid on top of that with not nearly enough return on investment to make it worthwhile to make that investment.

Mr. DICKS. What about—apparently Secretary Cheney says MILSTAR is his number-one communication priority. Does that mean that it is a higher priority than upgrades to the satellite communication system or the NAVY UHF follow-on communications satellite?

General WELCH. Clearly upgrades to DSCS are important but they don't give you the fundamentally new survivability and other capabilities that you get from MILSTAR. Upgrading DSCS is just more of the same.

Mr. DICKS. There are some additional questions here on MILSTAR that I will place in the record. There were also some questions on B–2 cost, cost per warhead that various think tanks have raised questions about.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

Question. The MILSTAR communications system is designed to virtually guarantee communications links for both strategic and tactical forces in all kinds of scenarios. However, because of cost overruns, schedule delays, and unresolved questions over satellite capabilities, the Congress refused to fund more than three satellites until these issues are resolved. Last year Secretary Cheney testified that MILSTAR is his number one communications priority. Does that mean that it is a higher priority than upgrades to the Air Force Defense Satellite Communications System or the Navy UHF Follow-On communications satellite?

Answer. Yes, MILSTAR remains Secretary Cheney's number one communications priority, however, the three programs—the Milstar system, the Defense Satellite Communications System (DSCS) and the UHF Follow-On fullfill different requirements. MILSTAR is a highly survivable and endurable narrow band, low data rate, Extremely High Frequency (EHF) satellite communications system. It is designed to serve large numbers of users requiring transmission of command and control messages to small mobile terminals

through all levels of conflict. Severe jamming and nuclear disturbed environments have little effect on the MILSTAR system.

DSCS is a wide band, high data rate, Super High Frequency (SHF) satellite communications system. It is designed to service users requiring transmission of large volumes of data. The user groups of these two systems are basically exclusive of each other.

The UHF Follow-On and its proposed EHF package on satellites 4-9 will provide Telemetry, Tracking and Command (TT&C), fleet broadcast, and tactical communications. It will fulfill different joint requirements than does MILSTAR, but will complement the MILSTAR system by providing additional communications capability for Navy tactical operations.

The EHF terminals in development and production today will have the capability to operate with MILSTAR and UHF Follow-On, as the UHF Follow-On EHF package will use the same waveform as MILSTAR.

Therefore, all three systems complement each other and satisfy a wide range of requirements that no one system can completely satisfy. Each of these systems provides a unique contribution to the nation's defense posture.

Question. Without getting into specific classified aspects of the program, would you summarize what is in the fiscal year 1991 budget for MILSTAR?

Answer. The fiscal year 1991 budget for MILSTAR continues the development of the MILSTAR satellite and its associated mission control elements. The budget request will support the integration and test phase for satellite #1, the continued fabrication of satellites 2 and 3, and if appropriated, initiation of fabrication for satellites 4 and 5; the development/fabrication and early operational testing of the mission control elements; satellite and booster (Titan IV/Centaur) integration; developmental testing; program office operations, and support contracts.

Question. In fiscal year 1990, the authorization and appropriations committees were unanimous in directing certain classified changes be made in the MILSTAR program. A significant amount of money was both authorized and appropriated above the budget for this effort. Does the fiscal year 1991 budget comply with the Congressional direction?

Answer. DOD is completing a thorough review of the program. By April 1, 1990, the Secretary of Defense will provide the committees the plan for executing the MILSTAR program in light of Congressional direction.

Question. What is the status of the money that was appropriated for the classified changes?

Answer. DOD is completing a thorough review of the program. By April 1, 1990, the Secretary of Defense will provide to the committees the plan for executing the MILSTAR program in light of Congressional direction. The status of the money appropriated for the classified changes will be discussed in the response.

B-2 BOMBER

Question. Mr. Secretary, the B-2 bomber is one of the five programs for which the Secretary of Defense directed additional

review which might result in changes to the budget request. The total DOD request for the program in 1991—including spares and military construction—is $5.5 billion, making this the single most expensive system in the Defense budget this year.

How much has the program's total cost of $70.2 billion changed since last year?

Answer. The B-2 cost estimate, which will include the impacts of the new inflation rates, the Boeing strike, and the reduced fiscal year 1990 aircraft buy, will be available after completion of the Secretary of Defense-directed Major Aircraft Review (MAR). As part of this review, the Air Force and OSD Cost Analysis Improvement Groups will validate the methodology used to generate the revised estimate. After the MAR, any required programmatic changes will be incorporated into the program.

Question. If the United States continues with the deployment of the D-5 missile and deploys a mobile ICBM system, how many high value targets would exist which high-yield gravity bombs can destory that missile warheads cannot?

Answer. The foundation of our strategic deterrent posture lies in the diversity of our nuclear Triad. Technological breakthrough could render one or more legs of the Triad vulnerable to attack. For this reason, high value targets may be targeted by both ballistic missiles and bomber weapons to insure that a failure of any one system will not leave the targets uncovered. ———. Additionally, the unique ability to conduct damage assessment allows bombers to provide maximum target coverage with minimum weapons expended. This is particularly important given the reduction of our nuclear forces and the large Soviet target base.

Question. An analysis in the fall 1989 issue of International Security argues that in an ungenerated case only about 25 percent of the U.S. bomber force would survive a first strike and that bomber force would only be able to deliver less than 1,000 warheads. Do you agree?

Answer. The analysis assumes a greatly modernized Soviet force positioned near the U.S. coast would launch a surprise attack against undergenerated U.S. forces. In addition to this calculation being in error, the author ignores significant realities, including U.S. anti-submarine warfare capabilities, U.S. intelligence capabilities, prospects for Soviet SSBN modernization, and the residual capability of the remaining legs of the U.S. Triad to deter such an action. All these issues combine to make this a highly unlikely scenario, a point the author himself concedes. One could postulate an equally plausible scenario in which a breakthrough in Soviet ASW technology allows a surprise attack on the Trident submarine force. In this scenario the bomber force would be viewed more favorably.

Question. The same article also addresses costs per warhead delivered. The author concludes that each warhead from a B-2 or B-1 would cost approximately $750.0 million to deliver. This is a far cry from the $29 million cited by General Welch in last year's hearing. Certain assumptions are made in the $750.0 million estimate, to be sure. They include a first strike of 500 kiloton weapons, an alert rate of 30 percent, a survival rate of 65 percent, a system reliability rate of 85 percent, and a penetration probability of 85 percent.

With those assumptions a total of 321 warheads would be delivered from manned bombers. When compared with 20-year life cycle operating costs (including tankers) of $240.0 billion this yields $750.0 million per warhead. This compares with warhead delivery costs of $54.0 million for the D-5 missile and $127.0 million for the Small ICBM. Your comments?

Answer. As you noted, certain assumptions were made in this analysis. The author has, however, made a few miscalculations. He underestimated bomber weapons carriage by up to 50 percent, failed to include B-52 weapons, combined then-year and current-year dollars in the cost estimates, overstated the B-2 program costs, overstated operation and support costs by approximately 120 percent, and included inflated tanker costs.

Question. The Air Force's difficulty in defining the B-2's mission and capabilities continued last year. In August, the Air Force published the "B-2 in Perspective" which stated on page 10 that "attacking highly mobile targets is neither the reason for the B-2 nor is it likely to be accomplished with great efficiency in the near to mid-term future. However, the B-2 is the best longer term hope for that job".

Issued at about the same time by DOD was a "B-2 Stealth Bomber Background Information" paper which contained the following statement: "Finally, the manned penetrating bomber represents the best near-term solution to the growing problem of Soviet mobile targets which threaten to undermine our deterrent posture."

General Welch, will you please clarify these statements?

Answer. The distinction between these two statements lies in the type of relocatable or mobile target being discussed and the efficiency with which the entire relocatable target base can be struck. When discussing this target base, there is an incorrect tendency to use the terms "relocatable" and "mobile" interchangeably. Mobile ICBMs are only one type of target set within the entire relocatable target base.

The opening statement of the first paragraph under "B-2 Search-and-Strike Capabilities" from the "B-2 in Perspective" briefing begins by discussing "relocatable targets." That statement is then followed by the statement that it is not likely that attacking highly mobile targets will be accomplished with "great efficiency" in the near-to mid-term ———.

The DOD statement says that "penetrating bombers are the best nearterm solution to the growing problem of Soviet mobile targets." Penetrating bombers as opposed to other Triad systems, offer some limited capability against relocatable and highly mobile targets today. In addition to mobile ICBMs, other relocatable targets which can currently be targeted by manned bombers include those that are easier to locate and identify such as armies out of garrison, submarines in port, bombers at dispersal airfields, etc. With respective to mobile ICBMs ———. As the "B-2 in Perspective" states, the baseline B-2 will offer enhanced capabilities against relocatable targets today due to its ability to remain survivable while searching from higher altitudes with greater range/loiter capabilities compared to other bombers.

In sum, while the manned penetrating bomber does not offer "great efficiency" of attack against these targets today, it does offer the only nearterm solution with some limited capabilities. In the future ——— it could hold a major part of the relocatable target base at risk with high confidence.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. MCDADE. At some point, General Welch, I want to talk about—not in this environment—paybacks of MILSTAR that need further investigation.

Mr. DICKS. Would we have to go to a higher level of classification?

General WELCH. I think we have to go to another room to do that, sir.

Mr. MCDADE. We could do it at the end of the day if we want to.

Mr. DICKS. Mr. Young.

OVER THE HORIZION BACKSCATTER RADAR

Mr. YOUNG. The 1991 budget request in the other procurement Air Force account for OTH-B has a significant amount of money for initiating work on the central sector of the radar system. It seems to me that this bypasses the emphasis that has been placed on the Alaskan component. Can you explain to us why?

General WELCH. As you know, from a pure air defense standpoint, it was our intention originally to do the Alaskan sector next. Increasing concern with drug traffic, an increasing empasis on that aspect of OTH-B has led to a decision that the contribution that that central sector can make to that mission is important enough that we ought to change the priorities and do that one next.

It is not really any more complex than that, sir.

Mr. YOUNG. For some reason we were led to believe that maybe there were some problems with the Alaskan sector that might have caused you to bypass it and go to the central sector.

General WELCH. That is an old debate, that OTH-B does not work as well looking north as it does elsewhere, but that impact on the northern Alaskan sector was minimal. It was a worry, but the analysis over the years has indicated that that is not really a significant factor.

Mr. YOUNG. Do you plan to continue then on the Alaskan sectors as well?

General WELCH. Given the overall budget priorities, it is still in the plan, yes, sir.

Mr. YOUNG. Do you have a candidate for location for the central sector?

General WELCH. I don't have the answer for that. I will have to get that for you.

Secretary RICE. We can get that for you, Mr. Young.

[The information follows:]

Yes. The Operations Center of the Central Radar System will be located at Grand Forks AFB, North Dakota. Surveys are underway to site the transmit antenna near Amherst, South Dakota, and the receive antenna near Thief River Falls, Minnesota.

Mr. YOUNG. The increase of MiG-29s in Cuba, did that have anything to do with that decision?

General WELCH. No, sir. It is a matter of concern, but, no, it had nothing to do with that decision. That central sector looks at the southwest border. It looks at the area where we—one of the areas where we have the most concern about the flow of drug traffic.

Mr. YOUNG. Would you expand a little on that? You said the MiG-29s in Cuba were of concern. Tell us what your concerns are.

General WELCH. Certainly if you look at the Western Hemisphere and all the changes in the Western Hemisphere, we have two nations that remain of great concern to us, Nicaragua and Cuba. It may be that a few years from now Cuba may be the only Communist government left in the world. Certainly Cuba is just as recalcitrant as they have ever been.

We see no change whatsoever in the overall attitude in Cuba so we are always concerned with military capability in Cuba. It is a modest number of airplanes. Nonetheless, the MiG-29 is a first-class, most modern generation airplane and we have to concern ourselves with that.

On the other hand, we have a lot of F-15s and F-16s in Florida so we feel quite capable of handling that threat.

Mr. YOUNG. Would the central system of OTH-B cover the Cuban-Florida straits and the southeast Gulf of Mexico area?

General WELCH. Yes, sir. That is covered by the Southeast sector of the Central Radar System.

Mr. YOUNG. Where do we stand on the East Coast Radar System?

General WELCH. That goes before the central section.

Mr. YOUNG. Are we on target timewise and moneywise in the Southeast?

General WELCH. You may recall that we had some delays in completing the testing of the first three sectors. The first three sectors gave us the opportunity to test the integration between three sectors and that took longer than expected, but those problems are pretty much behind us. I don't know exactly how much time we lost. I can get that for the record.

[The information follows:]

Since the East Coast Radar System contract was awarded in fiscal year 1982, the program has slipped a total of 40 months, largely due to difficulties encountered in configuring the software blocks to integrate three sectors into a single system. The lessons learned and knowledge gained have allowed us to avoid similar problems with the follow-on radar systems.

General WELCH. As sometimes happens, the individual sectors worked great but when it came time to integrate the information between the two, we had some software challenges.

Mr. YOUNG. As the Secretary said, you would never say you were without software problems?

General WELCH. That is right.

Mr. YOUNG. But nothing that can't be overcome?

General WELCH. That is right, it just takes time and effort to overcome it.

F-117 MOVE FROM TONOPAH

Mr. YOUNG. Why are you moving the F-117s from Tonopah?

General WELCH. Two things, total cost and hardships to the troops. We move every week the equivalent of Myrtle Beach Air Force Base from Nellis to Tonopah to operate those airplanes. That

is a very high-cost operation and that cost is only justified for security reasons and it was only justified in our view as long as they were actually sight sensitive, that is so long as we were very sensitive to actually protecting even a photograph of the airplane.

Given that that is first-generation stealth technology and we are well beyond that, that security consideration is certainly not worth that investment. It is very, very expensive to maintain those airplanes in that remote location at Tonopah. It amounts to a remote tour in the Continental United States, that is all those troops leave every Monday morning or Sunday night and fly to Tonopah and are separated from their families for a week.

Our people can put up with that, but they shouldn't unless there is a reason to. So the combination of cost and inconvenience and of course we have space, civil air space, ramp space, most of the facilities required to relocate that to Holloman. So it is a cost solution to solving those two problems.

Mr. YOUNG. You are going to use that facility at Tonopah as part of the red flag program?

General WELCH. Yes, sir.

Mr. YOUNG. What will you be doing out of Tonopah? Will you be basing personnel there and will they have to be transported every Monday and Friday?

General WELCH. No. That operation is temporary duty people who are air transported into Nellis. Tonopah is on the north end of the range. So it improves the overall quality of the exercise considerably if you have people stationed on both ends of the range.

So instead of those people being airlifted into Nellis they will be airlifted into Tonopah. The cost is the same, but they don't have access to the Las Vegas night life, which they won't miss much. It won't cost to do that. In fact, it may save some of them a lot of money.

SUSTAINABILITY

Mr. YOUNG. This morning in the open session I asked a question about sustainability. General Welch, in your statement, you commented that we would have to make painful reductions in force structure and sustainability in order to do the priorities that you have outlined.

Tell us what the painful reduction in sustainability would actually mean in specifics.

General WELCH. There are two primary areas where sustainability funding is significant: spare parts, ability to fly sortie rates for a long period of time, and munitions.

Let me start with spare parts because that turns out to be the limiting factor. We would like always to fund 100 percent of the spare parts but we have not been successful with that. The funding levels that we have been able to commit to spare parts in the new budget will eventually be down to about ——— percent of the capability required to support the full NATO scenario, because we will have ——— percent of the spare parts that would be required to fly the highest sortie rate that we could fly in a NATO environment.

We feel that that is an acceptable sacrifice although that means ——— percent of your capability is not funded. On the other hand, none of us are certain what the overall NATO requirement is going to be two or three years from now and given the other options that seems like a prudent sacrifice to make.

In munitions, we have enough munitions of all kinds to fly the full sortie rate. We do not have enough of the most effective, that is preferred munitions to fly the full sortie rate.

There we have curtailed the originally intended buy of Maverick, and, combined effects munitions, as examples in recognition that it is probably prudent to fund less than 100 percent of the total requirement in those munitions. We are left with a very robust capability to support something less than the full NATO commitment. While it is not something we do gladly, it is a prudent trade-off.

Mr. YOUNG. Are you concerned that this might take us back to the days of the infamous hangar queens where we had cannibalized other airplanes and left them sitting in the hangar?

General WELCH. No, sir. We fund peacetime operating stocks at 100 percent. We have not unfunded by one nickel all the spare parts required to fly the peacetime training program.

The only thing that we have funded less than 100 percent are the war reserve spares. So the troops in the field conducting the peacetime training mission at the full operating tempo for a peacetime training mission should see no impacts.

Mr. YOUNG. I think probably what is concerning me about this conversation is that the way you tell it now sounds like it is manageable and not that big a problem, but in your prepared statement you called it a painful reduction. The way you describe it now, it doesn't appear to be very painful.

General WELCH. Then I have been too calm because I don't regard giving up ——— percent of your potential combat capabilities painless.

What I have tried to convey is that given the alternatives, which are to give up another wing or two wings of airplanes, that we think this is the lesser of the evils, and it will not impact what the troops have to work with each day in order to fly the peacetime training rates, and that was much more important to us than 100 percent sustainability.

But an economic decision would be, if we had the freedom to make the most economic decisions, having made the investment in the forces, the most economic decision would be to fully fund the combat capability of the forces, so I think it is painful not to do that, but it is not fatal.

PILOT RETENTION

Mr. YOUNG. I have another question I would like to present in writing dealing with pilot retention and the problems we worked on last year.

This Committee thought we had resolved the problem, but in conference we weren't able to hold our ground. I have questions in writing about that that I would like to submit to you in the interest of time.

Mr. MURTHA. We would appreciate it if you would get these questions back to us quickly. Last year we had a big problem getting these questions answered so we could publish the record. We would like to do that before mark-up. We are trying to avoid putting a lot of extraneous questions in the record, but if you will, get them back to us as quickly as possible.

(CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:)

Question. General Welch, you mention that you are continuing to experience major difficulty retaining pilots. As you know, this Committee fully funded the flight pay increases which were not included in the budget last year, only to lose those funds in conference with the Senate Appropriations Committee. It is my understanding that you are paying them anyway. I'm sure its too early to tell what impact they may be having, but what can we do to help you with that problem? It does not make sense to develop and buy all of these expensive weapon platforms and not have the pilots to fly them, what can this Committee do?

Answer. Pilot retention continues to be a critical Air Force issue. We appreciate the support from Congress for the authority to increase aviator flight pay.

The effectiveness of the recent flight pay increase, and of all actions taken to address our pilot shortage, is under constant review. Although it is still too early to determine the effect of the flight pay increase on retention, initial feedback is positive. Besides helping to persuade pilots to stay, it sends a clear signal to our aviators that the Air Force and Congress recognize their importance to our national defense.

We need Congressional support of our efforts to fund retention initiatives without having detrimental effects on the entire Air Force. Our flight pay entitlement was approved without money being appropriated; however, we were confident, based on Congressional language, that we would be allowed to reprogram money into the MPA if necessary. If reprogramming is denied, it will force us to implement very severe dollar-driven actions within the MPA. These actions, such as freezing promotions, denying reenlistments and stopping accessions, will have catastrophic impacts on our people. As the key Committee affecting military appropriations, your support of our reprogramming is crucial. Without it our people will bear the burden.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

Mr. MURTHA. Mr. Hefner.

RECRUITING ISSUES

Mr. HEFNER. Thank you, Mr. Chairman.

How many people do we lose every year through attrition from the Air Force? And how do the bonuses and things that we pay for reenlistment impact that attrition rate? We spend a good piece of change for reenlistment bonuses. Now that we have begun to cut back on recruitment, we should get some relief in that area.

General WELCH. Our problem is not the overall attrition in that last year 59.4 percent of our eligible first-term airmen chose to reenlist in the Air Force. Bonuses are for certain specialties of very

high value to the civilian world, electronics technicians, aircraft mechanics, people that are very valuable to the airlines, and our retention in those specific areas where there is great competition is too low and that is where we apply the bonuses.

The bonuses are applied each year based on specific assessments on a skill basis.

Mr. HEFNER. You said this morning that when we make the cuts you make them from both ends, from the top echelon and also from accessions. So there would be some relief in accessions as well?

General WELCH. There may be. For example, certainly we would require somewhat smaller numbers overall on two counts: one, the force is getting smaller; secondly, the force is much more reliable and maintainable, that is, it is a lot easier to maintain an F-16 or F-15 than it was an F-4. It requires fewer specialists.

So we were able to reduce the overall requirement for those specialists. We will continue to examine the bonuses on the basis of reenlistment performance in those specialties where we have had shortages in the past. So if we are able to retain adequate numbers without the bonus, then we have no desire to pay the bonus.

AIRBORNE SELF-PROTECTION JAMMER

Mr. HEFNER. I understand the difficulties you have in cutting programs. I would like to ask you about two programs even though I have no interest in them as far as my district is concerned.

Last year the Committee took the lead in getting the funds restored for the airborne self-projection jammer and we did that because the Navy and the Air Force said they needed this system desperately.

You said that there was no other system in the pipeline to provide the protection and while some problems had been encountered, everybody wanted another year to test this program. Then two months later, the Air Force terminates the program. What happened to change your mind and how do you plan to protect all those F-16s?

Secretary RICE. Mr. Hefner, it is mostly an issue of affordability. As we have talked about, many of you in your questions and us in our responses this morning and this afternoon, there are a lot of tough choices having to be made as the budget comes down. This program was one that, upon reassessment, having to make do with a substantially lower budget level, not just in fiscal year 1991 but through the out-years as well, we concluded was of lower priority than other aspects of our program.

The F-16s will have some variety of capabilities that would not necessarily perhaps be as good as a fully functioning, all-up, automatic system that could do everything that we had hoped the ASPJ could do, but we think it will have adequate capabilities.

Mr. HEFNER. Could you, for the record, provide some detail of the options that you have and include the cost, the benefits, the capabilities, the shortfalls and the schedule availability of these systems? Is this just something that we are going to do without and can we afford to do without it?

[The information follows:]

The ALQ-131 Block II and ALQ-184 Electronic Countermeasures (EMC) pods will provide F-16 ECM protection. At present there are approximately 425 ALQ-131 Block IIs and 70 ALQ-184s in the Air Force inventory. Only the ALQ-184 is still being procured at a cost of around $1.0 million per ECM pod (to include support equipment). ———.

MAVERICK MISSILE

Mr. HEFNER. Each year we have Commanders-in-Chief in to discuss what is important to them. Every year that I can remember, an item that is very high on their list is smart munitions and they all say that they are very short on these. One of those smart weapons is the Maverick missile.

Last year the Air Force cut your requirement from 60,000 to 23,000, and you are buying less than 3,000 this year. Now you are going the last mile and want to terminate the program. Could you explain your logic and do you still have a need for this missile? What is going to replace the Maverick?

Secretary RICE. On the general subject of smart weapons, we are struggling very hard to protect, and so far have succeeded in protecting, all of the modern stand-off weapons that are in development at this point. I certainly hope we are going to be able to continue to protect them in the out-years of the program as we put the new one together.

We have with an eye both on making sure the resources are there for the most modern systems and with a recognition of the fact that we are going to be drawing the force structure down over time, and that the threat seems to be changing, too, we have done a reassessment of how much is enough for some of these weapons that have been in production for quite a long time now.

I see Maverick as falling into that category. If we were still needing to lay in the stocks required to go against a full, previously protected Soviet tank force, the numbers may well have stayed where they have been, but at this point, we think it is a prudent call to settle for the kind of stockpiles we have, which are still very robust stockpiles, and in effect move on to the next generation of systems.

Mr. HEFNER. What will replace the Maverick?

General WELCH. The Sensor Fuzed Weapon program is the antiarmor program that is succeeding and the one that we put the highest priority on.

Secretary RICE. There are several other new stand-off weapons that are in development as well and we would like to be able to keep them going.

EXCESS INVENTORIES

Mr. HEFNER. Someone talked about inventory. A recent report completed by the Senate Budget Committee states that the Department of Defense has over $300 million worth of excess inventory. We accept the principle that there is "good" and "bad" excess inventory.

What is your reaction to the Senate Budget Committee report? What was the Air Force's 1989 level of excess inventory?

Secretary RICE. I can get you those exact numbers for the record, Mr. Hefner, of just what our level is. I do remember when looking at it when that report came out that certainly some of that report

was based on pretty old information, but nonetheless in looking at the current status, what is called long supply in the system, which is based on a definition of what is in the basic supply, has to do with a couple of years of need plus procurement lead time, and then if you go beyond that, you get into this long supply or excess inventory category.

Mr. MURTHA. Explain that in a little more detail, Mr. Secretary.

Secretary RICE. I will try to do the best I can.

Mr. MURTHA. This is one of the most serious problems we face on the floor because all that publicity made it look like you had all kinds of extra gear and you weren't diligent and we weren't diligent in overseeing it.

Secretary RICE. I think to a limited extent that it is fair criticism, but it is far more limited than that publicity made it appear. There are standards for what is kind of normal stockage and that is based on a short number of years. I can get you the exact number for the record. It may vary by types of items.

[The information follows:]

The Air Force on hand excess inventory for 1989 was reported as $1.2 billion (part of the $12.8 billion long supply on hand inventory). Most of this excess stock has already been used, is currently unserviceable, and will be disposed of through the defense reutilization and marketing service.

It is often difficult to project usage on new items accurately. Procurements are based on the best available engineering estimates; however, until actual usage occurs, the stock procured may temporarily exceed the AFAO.

Secretary RICE. I thought it was two years of supply plus procurement lead time. If the quantity actually on hand exceeds two years of usage based on recent consumption experience plus procurement and lead time, then by definition it is classified as excess supply or long supply. So you look into the reasons why you might have excess supply.

There are legitimate reasons that can arise. For example, a supplier is going out of business or a decision is made on economic order quantity grounds to buy out the item. If the supplier is going to shut down a production line, you don't have any choice but to buy a quantity large enough to take care of your needs through the life that you expect to have the system that it supports in the inventory. But to the extent that goes beyond this formula that we are talking about, those extra parts get classified as excess supply.

B–2 SPARE PARTS

Mr. MURTHA. For instance, in the B–2 you might very well right now have parts that would be excess supply because they were produced two years ago when they were supposed to go into production. In other words they would be in excess because you wouldn't be using them for two years.

Secretary RICE. We should have only the stocks of initial spares procured in the B–2 at this time. We wouldn't have any usage experience for the B–2 and so wouldn't have a basis for even being able to judge what is two years of consumption at this point.

So we would have to take the indication of a system that had been in the inventory. Let's take the B–1. There may be some component of it and the vendor wants to go out of that business. What you do at that point is you make a choice between either qualifying

a new vendor, to continue providing that for you or buy out from that vendor before he shuts down the line, a quantity to last you during the lifetime of the program. If you make that decision, then a chunk of it gets automatically classified as long supply.

Mr. MURTHA. You are going to use those spare parts eventually.

Secretary RICE. Yes.

Mr. MURTHA. Where did we come up with the definition of two years being the cut off?

Secretary RICE. I don't know. I will get that for you.

[The information follows:]

The Approved Force Acquisition Objective (AFAO) is defined in the Department of Defense instructions for inventory stratifications as two years of anticipated requirements plus procurement leadtime. Procurement leadtime varies from one to three years, depending on the item type and contracting method.

Secretary RICE. How you can get into long supply circumstances, it was perfectly reasonable for the folks making decisions about this last year to place orders for parts for F–4s that were expected to be in the inventory for a period of time. Now we will be drawing down those forces more rapidly than originally contemplated, so when we get the parts today, we don't need them, based on the size of the forces that are left. So that is another way you can get there.

A third way I have found which accounts in fact in the Air Force case for we believe as much as 40 percent of the total long supply problem, and that is a DOD-wide policy against disposal. This is a swing of the pendulum kind of problem.

A few years ago where there were some concerns raised about the way elements of the Defense Department were disposing of excess supply, a reaction to that was put in a policy DOD-wide, no more disposal. So things have been building up that would have otherwise been disposed of over time, and I think that accounts for a surprisingly high fraction of our accounting problem.

Mr. MCDADE. Forty percent——

Secretary RICE. That is a number I remember, Mr. McDade. I will check that for the record.

I believe 40 percent of the Air Force long supply problem is based on a DOD-wide policy that denies us the ability to dispose of unneeded items. So there are a lot of reasons why there can legitimately be long supply.

My view is the DOD and Congress have to work together to develop not only a better understanding of what these inventory management problems are like and these kind of accounting rules are based on, and perhaps change some of the rules and regulations under which we operate.

[The information follows:]

The Air Force reports its inventory balances to the Department of Defense annually. In the 1989 report, the Air Force identified $12.8 billion as long supply inventory. Approximately 40 percent of this stock is being held in compliance with DOD retention policy. Approximately 57 percent of the long supply stock is for items with probable demands beyond the current year, while three percent is excess to all requirements and is being reviewed for disposal action.

DEFENSE MANAGEMENT REVIEW

Mr. HEFNER. Are you satisfied that the Defense Management Review is going to assist you and that we are going to know what we have and where it is?

Secretary RICE. There are a number of initiatives in the Defense Management Review that relate to inventory management and I certainly agree that the ones we have announced so far are steps in the right direction. We have so far announced—the two most important things that come to mind is stock funding so-called reparables, spare parts that can be repaired rather than thrown away, and we have decided to incorporate into the stock funds for consumables a more full-cost treatment, if you will, more of the costs of actually operating those inventories, managing those inventories within the department.

Both of those are moves to put greater accountability in the hands of the users, in the hands of the operating units that actually place the demands on the system for those components, whether they are reparables or consumables. I think that is well in accord with good management principles and consistent with what we are trying to do in a more wide-spread way across the DOD, and we expect that they will help us get to improvements in our management of inventories.

Mr. HEFNER. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Livingston.

OVER THE HORIZON BACKSCATTER

Mr. LIVINGSTON. Thank you, Mr. Chairman.

Mr. Secretary and General, we are glad to have you here. Sorry I missed you this morning. I was over at NSA.

Following on Mr. Young's question about OTH-B, first of all with respect to your plans to put a unit down there in the Southwest I understand that covers from, say, Texas or part of Texas over to California, and your Southeastern section, which covers Cuba, probably does the East Coast of the Atlantic, the Southern East Coast of the Atlantic, so you really still have a gap over the Gulf of Mexico.

It has been my understanding that most of the intrusion of narcotics from Texas is land-based rather than air-based, and that most of your air traffic comes over the Gulf of Mexico, so you are going to have a big gap there.

Do you have plans to remedy that?

General WELCH. Yes, sir. We are using aerostats to extend our coverage into areas we currently cannot constantly monitor. When completed the OTH-B network will cover that entire area without any gaps. It is easier to cover those over-water approaches with land-based radar.

Mr. LIVINGSTON. You think you will close that gap with aerostats?

General WELCH. It closes in the entire Southern border area, and the OTH-B will extend coverage to as much as 1,000 miles beyond the Southern border.

Mr. LIVINGSTON. Secondly, in that, I hate to mention it again, but in that "60 Minutes" piece, they talked about how stealth can

actually be defeated by longwave radar. Presumably they were talking about phased array, long-wave radar similar to OTH-B. I have been told on occasion that it can detect stealth. Can it?

General WELCH. Long-wave radars can be arrayed so they can detect the presence of the vehicle. They cannot track it with enough ability to guide anything to it to stop it.

We had a little discussion on that this morning, but let me expand a little bit. It has never been anyone's intention to be able to launch a stealthy bomber attack. In other words, you can't do that in this country anyway. If we ever had to do that, it would be filmed by CNN if they still existed.

The location of our bases is no secret. There will be no question in the minds of the Soviets if there is a bomber attack coming against the Soviet Union. They can tell how quick it is going to get there with a slide rule. You don't need a radar to do that.

If you would like to make a very large investment in long-wave radars, you can get enough hits at some range to determine that indeed there is a force of bombers coming your way. None of that does anything to help you stop them because you can't carry those kinds of radars on the airplanes that will have to intercept and attack or on anything that flies for that matter.

So I think that the contention that there are ways to determine that there is a stealth airplane out there at some reasonable range is true, but it doesn't give you any capability to stop it. It simply gives you confirmation that there is something out there within a radius of so many miles.

Mr. LIVINGSTON. If they were alerted, I think their contention was you could float your fighters up in the area and presumably they would see it because they can out-fly it.

General WELCH. Of course we would expect them to do that with no radar. The Soviets will know if we ever have to launch a retaliatory strike because they will be the ones attacking.

CHEYENNE MOUNTAIN

Mr. LIVINGSTON. How are we doing on Cheyenne Mountain? I know a number of management actions were taken last year to clean up some of the problems and upgrades were projected to cost $1.3 billion according to GAO.

What is the current estimate and what are the results of the recent OSD review?

General WELCH. Well, the DAB reviewed the Communications Systems Segment Replacement, the SPADOC and four other programs. CSSR and SPADOC are the two we have had to delay. The DAB was held in September 1989 and there was OSD satisfaction with our get-well plan.

In the meantime, the get-well plan has been proceeding pretty much on schedule. I think we have our arms around the magnitude of the task. It has not been multiplying since we had our discussions last year.

Mr. LIVINGSTON. Those problems and the OTH-B involved software problems primarily?

General WELCH. That is correct.

Mr. LIVINGSTON. Those are becoming manageable on both scores?

General WELCH. As you know, the SPADOC software problem multiplied primarily because the original purpose of SPADOC was overcome by events. We had to greatly expand the number of tracks and the number of objects that we had to keep track of with SPADOC.

I think when we re-did that analysis, it was done very carefully and realistically. There has been no increase in the requirements since that time. That means we are working on the right problem and making good progress on it.

Mr. LIVINGSTON. Do you feel comfortable in saying we are going to solve the software deficiencies of SPADOC and the other Cheyenne Mountain projects an the OTH-B?

General WELCH. I never want to be accused of underestimating software difficulties. I think the answer is yes. However, we don't want to be accused of ever underestimating software difficulties.

SOFTWARE PROBLEMS

Mr. MURTHA. If the gentleman will yield. General, let me make one suggestion.

We have the Software Institute at Carnegie-Mellon. They deal in theoretical issues. I accuse them of sitting back with their feet on the desk and smoking pipes and not solving problems.

I realize they are solving problems and doing work. I suggested to them last year they get involved in the practical solutions to problems and get part of their organization dealing in these software problems directly.

I don't know how far along they have gone. I hope you take a look at that. I think it is very important. They have some of the foremost experts in the world.

Every place we go, we find software problems now becoming one of the biggest problems we have. I think it would be very helpful if we spent a little more money down there and started to concentrate on solving some of these problems with all these experts here in the same room.

General WELCH. Good.

Secretary RICE. Mr. Chairman, as I think you know, we had the head of the Software Institute involved in helping us with the ATF program.

Mr. MCDADE. Would you yield for a couple of questions?

I was told—and I meant to raise it earlier—the B–2 is the largest software problem, by a great deal, of anything you have going. Is that accurate?

General WELCH. Well, in toto. I think it is important, though, to separate individual elements from the integration problem. The software for the B–2 is a lot more divisible. It doesn't have anything like the integration problem you would expect from that amount of software.

What I mean by that is that the flight control software in the B–2 is very, very extensive. As you know, flying wing airplanes fly on computers. The only way you keep the pointy end forward is because the flight control computer knows what it is doing.

REPROGRAMMINGS

Mr. MURTHA. Let me interrupt a minute before Mr. Dicks has to leave.

Mr. Secretary, we receive a lot of reprogrammings over here. We are going to get all kinds of requests from the White House to take money out of defense and put it in other programs.

When we came to a conclusion in the appropriations conference last year, some Members had add-ons to the bill, and we came to a compromise bill. I would advise you, Mr. Secretary, not to be sending over reprogrammings that take Members' special interests programs out of the budget.

You know, it is frustrating to us when we finally come to a conclusion, after a lot of hard work all year long in our hearings, and mark-up of the budget which everybody finally agrees to, and then have the various Secretaries send over reprogrammings. It just slows down the process.

I, for one, am not going to be willing to approve any reprogrammings that come up if it has been an add-on by the Members. If they have an interest in it, that is one thing.

That budget last year was a conclusion of a year's work in cooperation with all of the Members, and we tried to cooperate with them. We tried to eliminate or reduce the number of general provisions, and still work with you. Just some advice in order to speed up the process. I would hope you will not send reprogrammings over that look like they are reducing Members' special interest items.

Secretary RICE. Mr. Chairman, if I may say a word on that.

I understand your message loud and clear. I think if I understand the lay of the situation right, your comments refer principally at least—through maybe not exclusively—to the so-called deferral list and the application of some parts of that to some other areas.

I would like to ask in response, if I could, about—or simply make the point we have two very important and urgent reprogramming requests up before you. One has to do with the reprogramming for the military personnel account and the other has to do with the reprogramming for the ATF contracts.

You remember the reduction in the funds there, and we have made some adjustments. But we have a $134 million reprogramming request before you.

We tried very hard to make those sources ones that we could agree to, and those are time urgent. I would just ask, please, if you have difficulties with sources there, if you would let us know and we would like to work with you on those particular ones.

Mr. MURTHA. The other reprogramming, as I understand it, is MILSTAR. Of course, you have to send the reprogramming up for MILSTAR. We haven't seen anything yet on it, but we understand it, runs out momentarily.

Our staff is trying to work with you in getting the sources worked out.

Secretary RICE. Excuse me, Mr. Chairman. I have been corrected. We have haven't gotten the ATF up to you yet. We are still working on that. Let me flag it as one that will be coming.

Mr. MURTHA. Mr. Livingston.

Mr. LIVINGSTON. Mr. McDade?

B-2/C-17 SOFTWARE ISSUES

Mr. MCDADE. I just want to finish up on the software question. We have found, as has been said to you, and the Chairman repeated, it plagued with so many programs. It didn't plague the B-2 at all.

You handled it without any difficulty. I am trying to find out why you are able to do it. The C-17 has a problem. I am trying to ask you, we didn't have a program that didn't have a bigger requirement. You were explaining to me the difference, if there was a difference between the B-2 software and why you were able to handle it.

General WELCH. I am saying it is pretty well divisible. It doesn't have to be integrated. The flight control program was a big program.

In fact, several months of delayed flight, of the lateness of the first flight on the B-2 was debugging the flight control software. That is behind us now. It works fine. The offensive navigation and offensive attack software is a big package.

We do very well at that. We have a good track record on that particular kind of software. Not too much in the difference.

When you add all that up, and the other bits of software, even the radio today has software in it. Your T.V. has software in it anyway. When you add all that up, it is a lot of software. But morer manageable than it might appear.

In the case of the C-17, the delay is again the flight control software.

Mr. MCDADE. You accomplished it very readily in the B-2 with a much more difficult problem?

General WELCH. We were several months late flying the program. Part of that problem was finishing debugging the flight control software. But there isn't any question that we know how to do that, but that is also a piece of software where you don't want any mistakes when you go fly the airplane.

Mr. MCDADE. You accomplished it apparently in the B-2.

General WELCH. Yes. Absolutely.

Mr. MCDADE. A much higher degree of difficulty than the C-17, I am told?

General WELCH. That is true. Had we had the current C-17 flight control software team involved at the outset, you would never have heard of that as a problem, in my view.

Mr. MCDADE. Is the ACM the same reason?

General WELCH. Not too much. ACM is mostly a bunch of unrelated hardware failures.

Mr. LIVINGSTON. Unfortunately, that seems to be the case with Cheyenne Mountain. GAO estimated the cost for bringing it up to date is $1.3 billion.

Your current estimate?

General WELCH. I will have to get that for you.

[The information follows:]

GAO's estimate for the Cheyenne Mountain Upgrade (CMU) covered five upgrades: Communication Systems Segment Replacement (CSSR), SPADOC, Granite Sentry, Command Center Processing and Display System-Replacement (CCPDS–R), and Survivable Communication Integration System (SCIS). The Offutt Prccessing and Correlation Center (OPCC) has since been added to the program. The Air Force's current estimate is $1.46 billion for the five upgrades reviewed by GAO plus $.12 billion for OPCC for a total CMU cost of $1.58 billion.

Mr. LIVINGSTON. General, I want to tell you I am reassured. After hearing the President a few weeks ago and your statement a few minutes ago, and I think I heard a couple of other representatives from DOD telling me which way the pointy end was supposed to go, I am really glad we arrived at high technology.

Mr. MURTHA. Mr. Sabo.

PENETRATING BOMBERS

Mr. SABO. Thank you, Mr. Chairman.

I am just curious when the decision was made that we needed 230 penetrating bombers. I think you referred to that this morning. How many years back was that decision made?

General WELCH. Mr. Congressman, that was five Secretaries of Defense, four Presidents, and eight Congresses ago, all of whom have ratified it every year. That was in 1974.

Mr. SABO. 1974?

General WELCH. Yes, sir.

That was a very large-scale bomber study to look at the requirement for the bomber forces through the rest of the century because there was a great controversy at that time over how to replace the B–52 force and how we ought to shape the bomber force for the long-term.

The recommendation of that study was that we ought to go for 230 new penetrating bombers and keep about 100 B–52s in the cruise missile mission.

RECRUITING

Mr. SABO. I think you made reference this morning to the fact in terms of recruiting for next year, the Air Force will be seeking, I think, 36,000 recruits rather than 54,000. Is that both enlisted and officers?

General WELCH. Enlisted.

Secretary RICE. Just enlisted sir. Those were the numbers for the current fiscal year, for fiscal year 1990. The numbers are similar for 1991.

We could have been going before these budgetary changes, we would have been headed for something over 50,000 in new acquisitions for fiscal year 1991. We will now be looking at a number in the mid-thirties.

Mr. SABO. What are your plans for new officers?

General WELCH. Around 3,600 line officers in fiscal year 1990.

Mr. SABO. How does that compare with the normal Air Force number?

General WELCH. Down about a thousand.

Mr. SABO. Normally you recruit 5,000 new officers. You are looking at 4,000 for 1990. Do you have similar plans for 1991?

General WELCH. Yes, but it is likely to be higher to offset the unprogrammed losses in fiscal year 1990.

Secretary RICE. Yes, sir.

Mr. SABO. Your assumptions are that personnel levels will be about the same?

Secretary RICE. No, sir. We are assuming the total end strength projected in the budget will come down another 15,000 for the Air Force in fiscal year 1991 on top of 26,000 in fiscal year 1990, and that 41,000 is about a 75,000—78,000, I guess it is, total reduction from the peak strength level the Air Force had in the mid-eighties.

STRATEGIC PRIORITIES

Mr. SABO. Back to the question of the B–2. Not simply the B–2, but in the strategic portion of the budget. I expect we will have to struggle with that internally in the Congress to come to some resolution, but I think you have a tough sell. We are going to sign a START treaty, hopefully, this year sometime, and the result of the START treaty is that we need to make extensive investments in a new bomber and in a new missile, and in the basic mode of another missile.

So we are going to be telling the American people we made great accomplishments, we have reduced warheads by 50 percent, although I understand it is really 30 percent. One result of that treaty is going to be more cost for verification, and more cost for deactivating the warheads. That is very expensive.

Plus, we are told we need to make very major hardware investments. I don't really expect you to answer the question Mr. AuCoin asked this morning on your priorities but I expect the Congress will. Certainly if you don't we will have to try to do so.

As I look at this budget in total, I think you and the Secretary of Defense have made some very noble efforts, but they probably reflect what Congress would have done before the recent changes in Eastern Europe.

It really fits the pattern of what we have done for the last five years. I think it is clear Congress will want to go significantly beyond that in making adjustments for the future.

I hope we get your advice on that process and maybe on some of the non-strategic areas.

But on a different level, clearly the dollar numbers are going to come down. I hope that you are giving serious thought to priorities other than those reflected in your budget.

Mr. Chairman, I also have another question for the record, if I could enter it.

Mr. MURTHA. Without objection.

[CLERK'S NOTE.—Questions submitted by Mr. Sabo and the answers thereto follow:]

ADVANCE PAYMENTS

Question. Officials in the Air Force claims office have indicated that they view advance payments primarily as designed for businesses. The example cited is a firm which might suffer bankruptcy as the result of a plane crash. As far as I can tell, this is a blatantly incorrect interpretation of the Air Force's own rules. For example,

Section A20-4(b), AF Regulation 112-1 (page 295), notes that payments are available for "food, shelter, medical or burial expenses." These are not normal business expenses. More telling, however, is the next line which notes that "in case of commercial enterprise" advance payments are needed to avoid several financial loss or bankruptcy. This clearly indicates that advance payments were intended for individuals, with businesses as a secondary eligible category. Also, Section A20-6, gives as an example of an eligible claimant a family whose home is destroyed. Can you provide any information about this interpretation?

Answer. The referenced "interpretation" is not an accurate description of how the Air Force interprets the advance payment provision. Advance payments are primarily for individuals who have immediate need due to hardship for food, shelter, medical or burial expenses, or other necessities. Records of advance payments made over the last ten years verify that this interpretation has been followed in practice.

Question. How many times have advance payments been made over the last decade?

Answer. The Air Force has made 130 advance payments in tort type cases over the past decade in a total amount of over $500,000.00.

Question. How many requests have been made?

Answer. The Air Force has no data on how many total requests have been made. It only maintains historical data on requests which result in advance payments.

Question. How many of those requests, and how many payments, have been made to businesses, and how many to individuals?

Answer. Of the 130 advance payments that have been made, six have been made to businesses and 124 have been made to individuals.

[CLERK'S NOTE.—End of questions submitted by Mr. Sabo.]

Mr. SABO. Thank you.

Mr. MURTHA. Mr. Miller?

BASE CLOSINGS

Mr. MILLER. Thank you, Mr. Chairman.

I guess maybe we need to talk about this in closed session, that is base closing, because it seems the more information you put out, the more fight we find we are into; but how do we stand at the present time? It was mentioned, as I recall in your statement, that additional base closings would save some $1.4 billion. Is this creating a problem for you, or is it just a Congressional interest that you don't close a base if it is in my district? Do you feel that you are handicapped by any of those base closings?

Secretary RICE. Well, Mr. Miller, let me do it in two parts for you. The Base Closure Commission package was, I guess, finally accepted by the Congress in this past congressional session. The Air Force has a significant piece of that. Those closures are all now moving forward, but it is going to take a number of years to accomplish them.

Many of those changes have significant front-end costs because activities have to be moved from the bases to be closed to other locations, and they will produce cost savings.

The total base closure commission package DOD-wide will produce, if I remember correctly, about $1.2 billion in net savings between now and fiscal 1995, and then an average annual savings of about $670 million per year.

The second part of it is the package of Air Force bases that we have just announced as candidates to study for closure. That package is 11 overseas bases and five CONUS bases, including Tonapah, which is technically a realignment, but takes it down to no permanent activity there.

It is kind of like a closure. That package of changes will result in, by our estimates, assuming we are able to proceed with them on the schedule, we have them laid out, would save $1.8 billion between now and fiscal 1995 net of the one-time cost of making the changes and would produce average annual savings in excess of $500 million, I think it is—I will get you the exact number for the record.

It is over $500 million a year from 1995 on.

[The information follows:]

Projections show that the Air Force can save $1.4 billion between now and fiscal year 1995, not including proceeds from the sale of real property. Estimated annual savings of $560 million are projected from fiscal year 1995 on.

Secretary RICE. The point I was making in my statement this morning is that our Air Force package for base closure II, if you will—is quite competitive in terms of the cost savings it will generate with the total base closure commission package which, of course, was DOD-wide.

At this point, we believe we can live without the facilities that we are proposing to close, but some of the actions that we have announced to study for closure are predicated upon force drawdowns in Europe and predicated upon some reductions in the overall force structure of the Air Force that we expect will come along with the reduced budgets that we are looking to in the future.

Do we think those are reasonable assumptions to be making at this point? So in that light, I think the answer to your question is those capabilities we can do without is, yes.

Mr. MILLER. It worries me, frankly, when I see over the years the build-up of the bases and once they are in a Congressional district, a state, the Senators or that particular Congressman representing that area is going to be showing what great need it is to keep that base. It seems to grow slowly.

My concern is as we go through this exercise and close bases, whether we have any built-in method to show that we are not going to start over again and open new bases in other areas.

Secretary RICE. Well, sir, I think those are certainly legitimate concerns that you have expressed and ones that we share.

I would just like to emphasize that based on our best preliminary assessments of what we will be required to do under the budget levels we will be looking at in the future, we are going to be making significant reductions in the size of U.S. military forces, and as part of that, we simply have to reduce the overhead, the in-

frastructure, the indirect costs of our business as well as the direct costs, the forces themselves. So we have got to take the whole defense budget down in a balanced way and we badly need the support and cooperation of the Congress to allow us to do that.

The base closures, per se, are one part of that issue. There will be other realignments, some of the efficiency savings called out in the Defense Management Review, some streamlining of activities that will reduce employment, and numbers of people in other places, even though that base will continue to operate, but at a reduced level.

All of those things will have to be done as part of taking the budget down in a balanced way. As I say, we will—we certainly will need your support to be able to accomplish that.

BURDENSHARING

Mr. MILLER. Tell us a little about burdensharing. I notice you discuss it in the booklet that we have. There are some things, I guess, that you could not talk about in the open session, but I notice one place where you spoke of a 500-bed hospital and something like 14 of those that have been delivered to Europe and the Pacific area. So when we talk about burdensharing, we are paying for and sending such things, but burdensharing, of course, goes far beyond that. We are going to take care of troops wherever they may be, but still there is the expense now. Do we find our allies willing, in any way more so than five years ago, to accept the responsibility of increasing their share of the expense?

Secretary RICE. Well, I think the trends are positive in that regard, Mr. Miller, but it is something we have to keep working with our allies on all the time. We certainly made some headway in terms of increased considerations of our NATO allies to the infrastructure funds available there.

We have gotten increased support from our Japanese ally for support of our forces based in Japan. The Secretary of Defense has just been in Korea talking with them about increasing their support for our forces based in Korea. We are making some—in the case of the Air Force, we are making some changes that we announced as part of the base closure package that will have the effect of—have a positive effect in a burdensharing sense, and that will reduce the base operating support activities at some of the bases we have been operating on.

We expect the Koreans will continue to operate those bases. We hope to be able to negotiate some kind of colocated operating base status for U.S. forces to be able to use them in the event we should have to reinforce in Korea.

That will mean the Koreans will be carrying a larger share of the base structure there than they have been in the past.

So I think there are some trends in the right direction on burdensharing. As I say, it is a matter we just have to keep working on.

OBJECTS IN SPACE

Mr. MILLER. Can you also give us some information on the use of space and the number of satellites that are sent into space?

I saw a map not too long ago showing the world and in general the spots where we and other nations have objects in space. I also remember a number of years ago, there was one program where a satellite opened up and then exploded needles into the area of space that we are now using.

I don't recall the name of the program. It sounded kind of foolish at that time. It sounds more foolish right now that we have a lot of little steel—thousands of little steel pieces that could create a problem for a satellite needed for C3 or other purposes.

Are we getting into a problem as far as the plain junk that is in space now which you may have to protect against when you send a satellite in that area? I know we have a large area, but by the same token, we have a—what we might call a real junkyard up there at the present time.

Secretary RICE. You are quite right, Mr. Miller. There is a very large volume up there. While we and the Soviets and others have been launching things into space for a long time, I don't think we have yet gotten to the point where we have a crowding problem. Things that are lower in the orbit will eventually decay, their orbits will decay and they will eventually burn up in the atmosphere.

But there certainly are a large enough number of objects up there now that the space surveillance and tracking problem becomes steadily more complex and requires greater capabilities in order to keep track of what is there and to be able to sort out the other side's objects from our own.

NUCLEAR SAFEGUARDS

Mr. DICKS. The gentleman's time has expired.

Senator Nunn has announced he will be seeking a formal review of existing mechanisms adopted by the Armed Forces to assure the security of the nation's nuclear weapons. Among the items he feels deserves serious consideration are inclusion of self-destruct mechanisms on the missiles of each of the superpowers to guard against accidental launch.

Given recent instablilities in the Soviet Union, this may be even more important for them. The assessment is it will be easier to accomplish if there is some agreement to proceed on both sides. Is the question of accidental launch safeguards being reviewed by the Air Force?

General WELCH. The last time we had a very significant review of that was about three months ago. The answer is yes. We constantly review the safeguards. From the U.S. viewpoint, the protections against an unauthorized/accidental launch is almost totally absolute.

Mr. DICKS. On our side?

General WELCH. On our side.

Mr. DICKS. Are we a little worried about what is happening on the other side with the instabiliity in the Soviet Union?

General WELCH. Not really. Again, from what we know of the Soviet system—and the Soviets have been quite open about their system—from what we know of their system, for example, you couldn't capture a U.S. Minuteman base and launch a Minuteman

missile. I don't care how much of that base you control. You could not launch an armed Minuteman missile. Neither can the Soviets.

Mr. DICKS. So a terrorist group could take over one of their bases—and they could not launch one of their ICBMs?

General WELCH. They couldn't launch an armed ICBM. But what it takes to satisfy other people of that is another matter. I have no concerns about the degree of assurance on either side against unauthorized launching of an armed ICBM.

Mr. DICKS. What about the self-destruct mechanism? What is your view of that, General?

General WELCH. Well, that is a two-edged sword in that within the classification we can talk about in this room, let me just say it is a two-edged sword. That is, if you have the means to destroy your own missiles once they are launched, then you have to assume that the other side may indeed find the means to do that for you.

Now, I am not sure that you would ever have enough confidence in your ability to code and protect your own means that you can never believe the other side can break your code and then ask yourself whether or not you want to take any chance that the Soviets could destroy your ballistic missile force once launched. So that is why I say it is a two-edged sword.

It takes a lot of thought to decide whether or not you wanted to embark down that path. That is a very sensitive subject.

Mr. DICKS. Mr. Secretary, is there anything you want to add?

Secretary RICE. No. That covers it.

B–1B COUNTERMEASURES

Mr. DICKS. What about the B–1B? How are we doing on fixing the defensive countermeasures? Do you have the funds to do that? Where does that stand?

Secretary RICE. No, sir. We do not have the funds at this point.

Mr. DICKS. Why is that? Did this Committee deny them?

Secretary RICE. It is because of restrictions both the authorization conference and the appropriations conference put on that program in their work last year. To back up and remind you where it stands——

Mr. DICKS. Do you think that was a mistake?

Secretary RICE. I think it is an action which can be readily resolved if the Congress will react positively to the letter Secretary Cheney has sent up asking for approval of the—providing notification and laying out how we plan to proceed on that program.

Now, there are two points of view in the Congress, obviously. One is that one part of the Congress believes that what is required is notification and a waiting period during which the Congress has the opportunity to object, and there is another point of view in the Congress that there is a formal prior approval process that has to be gone through.

So if the various committees can each work out how they feel they need to handle it and handle it their way, we can nonetheless, I think, get agreement among the four committees and the Administration about how to proceed.

Now, on the program itself, we have been carrying it along a few months at a time, a few months extension. We have now come to the end of that rope. That is why—particularly because of the language from the Congress last year, that is why the Secretary's letter is up before you.

The program is laid out on a totally zero-concurrence program. We are committed against what we believe is a well-worked-out solution now to go through the development and to complete the testing before any commitment is made for procurement of the so-called ALQ-161 itself.

The total package to provide an adequate level of ECM capability in the B-1B involves this fix to the ALQ-161 and it is that item that raises the M account funding issue, and that is one part of the package. The second part of the package is the addition of a radar-warning receiver which is to be provided with new funds, new appropriations and requests for that money is in our budget as well.

So those two parts—those two actions together we believe will provide an adequate level of ECM capability in the B-1B. In fact, we think it is an essential capability. The B-1B will be used as a penetrating bomber certainly through this decade and probably much longer than that. That will be true——

Mr. DICKS. What does it look like this additional capability would cost us? I happen to be a strong believer. We spent this money for the B-1.

We expected to have a defensive capability which we apparently do not have. We ought to go out and fix it if for no other reason for the sake of the pilots who have to fly the airplane. We ought to make sure we have the capability to do what we need to do over there.

Secretary RICE. I agree with that view very strongly, Mr. Dicks. The additional cost of the ALQ-161 is $418 million from here on, about $120 million of that will complete the development and testing and do a couple of other adjustments to get the fleet of aircraft up to a common configuration in its avionics suite. The remainder of the money is for procurement of the items, the ALQ-161 once it has passed its tests and demonstrated it meets the requirements that are now laid on for it. The radar warning receiver, I believe, is another $489 million.

Mr. DICKS. One of them comes out of the M account?

Secretary RICE. The first one comes out of the M account. There is $418 million to go.

Mr. DICKS. $489 million then would have to be appropriated? New money?

Secretary RICE. That is right.

Mr. DICKS. Tell me—when we look at what we were talking about having versus this, doesn't it get us to 83 or 84 percent of what we felt we would have?

Secretary RICE. It is not easy to quantify it that way. It is a high percentage, certainly.

I think those kind of percentages would be a reasonable judgment to my mind.

Mr. DICKS. If it is the wrong way to characterize it, would you characterize it properly then?

Secretary RICE. Well, what we were originally asking the system to do was to operate across the full range of frequencies in which the threats might exist to detect any threat in that whole full range of frequencies, to automatically monitor, compute or determine the frequency, compute the nature of the source, select the jamming frequency that should be used in response, and to put out that jamming power at the right frequency and handle a large number of set threats simultaneously.

It was the problem of handling the large number simultaneously that got the system, in effect, into overload. That was the requirement that simply could not be satisfied.

What we have now is an alternative design that will still monitor the full range. It will be just—manually adjustable in the aircraft to focus its attention on the top ten or eleven threats; the most modern, most serious threats. And it will have essentially the same capability to deal with that more limited frequency range as the system was originally intended to have across the spectrum.

For the circumstances in which it is necessary in actual operations to adjust it so it focuses on that part of the spectrum, the high-threat part of the spectrum, the radar warning receiver then provides a back-up capability for signal awareness of any other threat that might be out there.

So the combination of those two, we think, the kind of percentage you cited or perhaps even something higher than that, would be a reasonable judgment call of the proportion of the original capability we were looking for that will have in this modified way of going at it.

But it will cost, as you suggested, in total about a billion dollars, part of which will come—about half from the M account and about half from new monies to provide that capability.

Mr. DICKS. General, do you think we ought to do this? You are all for this, aren't you?

General WELCH. Absolutely. It is a tremendous payoff for the additional investment.

Mr. DICKS. Considering the fact we have $23 billion into this, it seems to me this is such a crucial part of this airplane's ability to perform that for the additional amount of money that we get this thing fixed, it seems to me. This is important especially, unfortunately, because we have doubt about our follow-on bomber of which I am strongly supportive. But there are other skeptics, so this makes it even doubly important we get this.

Secretary RICE. Mr. Dicks, I would consider myself remiss in my duties if I did not propose a way to provide the aircraft the kind of capability we are talking about to—if it had to—you know, if it were called upon to do so, it would fly tomorrow. But it would do so without all of the capability that we know how to provide it. We ought not to like that circumstance. We ought to try to fix it.

One last point about the importance of getting the okay on the M account issue is what we have here is a situation where we have extended an existing contract. It is not the best contract that was ever written. If we were to go back and do it again, I hope we would do it even tighter and better. Nonetheless, there is no doubt that continuing to operate under this existing contract is a far better deal for the taxpayer than allowing that contract to lapse

and creating a condition thereby in which this contractor or another one will try to get well in the process.

We have the reason it falls under the M account is because of the corrections of deficiencies clause in the existing contract. The contractor has to provide this work.

We have to pay for it. But there is a share-line involved. They have to do it at no fee. There is absolutely no doubt in my mind it would cost the taxpayers at least hundreds of millions of dollars more if this existing arrangement were broken and we had to start all over again to provide this capability.

The reason I tried to be so tenacious about keeping this contract alive which I know has caused some consternation in some quarters up here is because of this good business practice aspect of the whole thing. It is not just because we feel the capability is needed, but it is because if we do not do it, it will cost the American taxpayer a lot more money to do it another way.

Mr. DICKS. I think the consternation up here is because it took you guys so long between OSD and Air Force to decide what your intentions were. Then there was the question of converting funds reserved for termination liability to normal contract operations.

As I said, I am strongly supportive of what you are trying to do. It would have been helpful if we could have moved earlier. This is reality. We are there. I am going to support you. Others will have to decide.

JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM

JSTARS, can you give me a quick pitch on where we are with that?

Secretary RICE. JSTARS continues to rank as a high priority of the operating CINCs. In the new kind of environment for defense of NATO that might be contemplated down the road with much smaller forces on both sides, the emphasis on the ability to maneuver and flexibly apply your forces wherever they are needed depending upon what the other side is doing is certainly seen by the CINCs as putting an even higher premium on the kind of capabilities that JSTARS represents.

The same kind of thing would be true in other theaters. I would only add that this is probably another area where the total size of the requirement will be re-examined in light of the changes in the overall force structure. The capability of this nature is clearly important in future conflicts.

Mr. DICKS. Would a plan like this be used for OPEN SKIES or not?

General WELCH. Well, I think we would be delighted to. I am not sure that the other side would agree to that kind of capability in the OPEN SKIES arena.

Mr. DICKS. We are not sure yet?

General WELCH. It has application any time that you are interested in a high-fidelity picture of movement of forces on the ground or movement of things on the ground.

Secretary RICE. I would add in that connection, Mr. Dicks, that we would certainly see this kind of capability as being potentially important in crisis conditions in the future, in circumstances in

various parts of the world where someone may be contemplating something that we would like to see them cease and desist.

One kind of capability we will have with JSTARS, with AWACS, with tankers to support them, with those kinds of systems, is the kind of capability to put something in place such that they know we are watching every move and would know instantly if they were to start something that we wanted them not to start.

Mr. DICKS. What kind of airplanes are you going to use on those missions? I had to get down to the bottom line here. Can you use those nice new ones? Are you going to use old ones?

Secretary RICE. The program, as it is laid out now, and approved by the DAB calls for using used Boeing 707s as the platform for JSTARS.

Mr. DICKS. Is that the right decision?

Secretary RICE. I believe that that is clearly the right decision in the context of both our budget problems and the requirement to have a large enough fleet to mount four orbits. If that requirement gets re-examined, if there is a different kind of budget pressure, perhaps I could be—it could be looked at again. I think it clearly was the right answer when we went through that last fall.

Mr. DICKS. How many airplanes are we talking about?

Secretary RICE. I believe it is 22.

General WELCH. Twenty-two.

Mr. DICKS. The only reason I bring up the other aspect is, you know, the Boeing 707 line is going to go down at some point here. It had been used, for AWACS.

Secretary RICE. I think it has already started down.

Mr. DICKS. That is one of the realities, I guess.

Mr. Young.

RESEARCH AND DEVELOPMENT PROGRAMS

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. Secretary, as Secretary of the Air Force, your jurisdiction and responsibilities go far beyond the items we talked about today. You live in a very high technology world as part of your life. Many of the things we are hearing today based on the so-called peace dividend, the iron curtain melting, the threat diminishing, et cetera, are causing people who have been involved in the defense business forever to either sell or talk about selling their defense activities.

We are hearing that investors are not now as willing to put money into investment capital in defense-related industry as they were before the iron curtain began to melt.

As these companies begin to sell or investment capital falls off, what concerns me is we are going to lose out on a lot of research and development programs that we have the advantage of today.

The research and development programs are producing a lot of profit for these companies. In the world of Wall Street, buy and sell and make your money quick and get out and skin the R&D. What do you see as the future for our ability to stay ahead of the field in the area of reseach and development and have the edge in the high technology that we have today?

Secretary RICE. Mr. Young, I think our potential to sustain an adequate defense industrial base and to stay ahead, stay on the cut-

ting edge and stay ahead technologically in military capabilities is clearly there.

What it requires is that we make the right kind of decisions about the policies by which we will conduct the kind of R&D programs you were alluding to, and that we make the right kind of decisions about investment in the technology base, itself and the 6.1, 6.2, 6.3 kinds of monies and RDT&E in the defense program and it requires a commitment to a reasonable number of new programs that will actually keep not only the major development going, but actually embody these technologies in new systems which keep us at the cutting edge of military capabilities.

Now, we have, I think, wisely changed the policy for how the front end RDT&E and new systems is to be funded by the government. We talked earlier about the way the ATF has been done with this large amount of cost/sharing required by the contractor teams for that front-end development.

In my personal view, that is not a good way to have done business and it will inevitably have stripped badly needed capital out of this industry by the time we are done, because those two teams have contributed about equally to that—I think it is $1.6 billion of cost sharing and only one of them will end up with a business base as a result of it.

So, I don't think that is the right way to have done things. So I am pleased we have changed the DOD policy and—to one now in which we expect the Defense Department ought to pay the front-end costs for these necessarily riskly activities in the early stages of new systems.

I hope we will be able to continue. I think we have in the 1991 budget an adequate level of support. I hope—we expect—and I hope we can continue in years beyond that an adequate level of support for the basis technology work and then beyond that what it is going to take is finding the wherewithal to support some of the advanced programs like the B-2 and the ATF. Those are the kinds of things that are going to keep us at the cutting edge of capabilities and are going to being along the manufacturing—the new manufacturing techniques and new materials and other things that will have the kind of spillover to other areas as we have seen from aerospace right along.

We are, in fact, whatever else we may say correctly about other aspects of our national life, we are an aerospace country. That is the—that is where a lot of the cutting edge of technology has been. That is where it is going to continue to be. We need to stay preeminent.

Mr. YOUNG. I agree with everything you said. But if that wherewithal isn't there, if the investment capital is not there, if the companies decide to spend their money on doing things that are profitable to them rather than involving themselves in R&D or something, do you believe that there needs to be some type of incentive program in addition to what we already have to encourage these companies with this capability to continue striking out as hard as they can on challenging the technologies of today in preparation for tomorrow?

Secretary RICE. Well, I think the best incentive is the expectation of a business base that can offer them the opportunity to make a reasonable profit if they perform competently.

Mr. YOUNG. I agree with that.

Secretary RICE. That ought to be where we start.

Mr. YOUNG. I agree with that. There are companies selling off their defense businesses now or planning to sell them off. There is a lot of investment capital that is not going to the defense industries today that was going there this time last year. Those are the concerns I am voicing.

Secretary RICE. I share those concerns. I think we have to look at a lot if it case-by-case. I don't see any way to avoid some consolidation in this industry given that we seem to be headed for four percent of GNP by the mid-nineties instead of six or 6.5 percent that we have seen in the mid-eighties, GNP devoted to defense. I think it is inevitable there will have to be some consolidation and contraction in the industry.

The key is to make sure there is still a sufficiently broad base and that there are enough players in it to provide both the diversity of technology and enough competition to keep costs under control as we proceed with new programs.

So I think we are going to have to experience some drawdown and some consolidations and we are just going to have to keep an eye on it to make sure it does not go too far.

Mr. YOUNG. Is it safe to say that you see this as a potential problem and your thinkers and planners are at least thinking about it?

Secretary RICE. Yes, sir. Certainly they are worrying about that in the Defense Department and it is not just an Air Force problem, but a DOD-wide one and one Don Atwood and John Betti are much concerned with as well.

Mr. YOUNG. Thank you very much.

Mr. DICKS. Mr. Miller, any further questions?

INDUSTRIAL FACILITIES

Mr. MILLER. I do, Mr. Chairman.

Following up on not having the assurance regarding the supply of material and spare parts, do we have anything in the budget for 1991 that says that we will be buying out certain industrial plants or munition plants to make sure that we do have a supply in case it becomes needed?

Secretary RICE. I don't have anything come to mind in the Air Force budget of that sort.

There are a couple of such arrangements in the Army, but you would be better advised to get details about that from Army witnesses, but certainly the plans for the M–1 tank production line and the plans for how some of our ammunition plants are to be handled would fall into the category that you are asking about.

Mr. MILLER. But primarily you have nothing in the Air Force budget for buying out?

Secretary RICE. Nothing of that sort comes to mind. We can check for you and if there is, provide it for the record, Mr. Miller.

Mr. MILLER. If you would, I would appreciate that.

[The information follows:]

The Air Force does not have any funding in the fiscal year 1991 budget for buying out industrial or munitions plants. The Air Force does have $46.3 million in the fiscal year 1991 budget for the maintenance and operation of twelve Air Force-owned, contractor-operated industrial facilities.

PANAMA

Mr. MILLER. Let me turn to Operation Just Cause in Panama in which the Air Force was involved. Did you find that there were other things that you may have needed or did you find that you maybe have surpluses in some areas? In other words, are you making changes in the inventory and the planning because of what you learned by the Just Cause operation?

General WELCH. Probably the direct answer is not really. There is a fairly small range overall, in the individual kinds of special capabilities that we needed which were available: the F-117, the nightstrike capability, the gunships of the ability to surgically remove things. Those were all there.

Probably if there was one thing that was emphasized by Just Cause, it was the need not only for adequate airlift, but the kind that can turn around very quickly on the ground in that we had to get in a sizable force in a very constraining time period into a very constrained base.

Consequently, we refueled all the C-141s enroute although they didn't need refueling to get to Panama. We refueled them with aerial tankers so they didn't have to refuel on the ground, because we need the ramp space. The C-5 was of very limited utility because it carries a tremendous load. It ties up too much of the ramp for too long in those circumstances.

What it really emphasized was the importance of throughput, the importance of the kinds of airlift capability that not only gets the stuff there, but on a minimum size ramp and gets in and out in a hurry. If this sounds like a C-17 pitch, it is.

My point is that of the things that were really emphasized by Just Cause, the other thing that Just Cause verified was the importance of joint training. This was a very complex operation that required close cooperation between the Air Force and the Army.

It was an operation that had been virtually rehearsed several times because of the nature of the joint training that we did, so that when it came time to perform, the troops were able to do exactly what we asked them to do without going through the stumbling around learning experience that we often have in the first day or two of an operation. In this case, we couldn't afford any stalling around. We had to succeed on day one.

Emphasizing things that easily fall out of our list of important items if we don't reinforce them once in a while, a joint action sometimes is a pain and it is expensive, but we have to do things like that to be ready to do what we need to do.

I can't tell you what our next requirement will be, but if we tried to guess, we would probably be wrong.

Mr. MILLER. Spending for the items that are needed for operations like Just Cause, where you have a brush fire and need to put it out fast before it becomes a big international problem, is why I was wondering about communications—did you find C3 was what

it should be and are we going down the right road in furnishing the dollars for the type of communications that are required?

General WELCH. For that size operation in that location, communications were superb.

You can find other places in the world where, with the same motive, that being to return to peace as quickly as possible, that communications would not be as adequate and, of course, we have programs which have been generally well supported to provide that additional capability.

Secretary RICE. Mr. Miller, I would just add the thought that I agree with you. The nature of conflicts that we are going to have to be prepared to deal with in the future, while they may be a lot smaller in scale than the kind of NATO conflict we have planned for in the past, they will be ones on which the premium is going to be reacting quickly with enough force to snuff it out, if you will, in fairly short order. It is not hard to conjure scenarios that are analogous to Just Cause, but which would require substantially larger amounts of force than we used in Just Cause to be able to carry out such a mission. When you start contemplating those kinds of deployments needing to be made in a hurry perhaps over longer distances, we see in stark relief how limited is our deployment capability and the airlift force supported by our tanker force, jumping up on the radar screen as something that is very critical.

Mr. MILLER. Thank you.

A–12 AIRCRAFT VS. B–2 AIRCRAFT

Mr. DICKS. General, are you going to use the A–12 to replace the B–2? I read that as a rumor.

General WELCH. That is one of a long list of things that are being investigated, but not very seriously by anyone who knows anything about the strategic business.

Mr. DICKS. Must be somebody at DOD.

Secretary RICE. The answer to that is yes, and furthermore, there is a certain symmetry involved because one of the other major aircraft reviews that is being looked at is the B–2 substitute for an ATA.

MX RAIL GARRISON

Mr. DICKS. Let's talk about MX Rail Garrison for a moment.

This is a key year for MX Rail Garrison. The budget request is for $2 billion in procurement and $.5 billion in RDT&E for the total fiscal year 1991 MX program.

Mr. Secretary, what is the status of the MX Rail Garrison program at this time?

Secretary RICE. The development program is proceeding along just fine.

I am not aware of any difficulties with it.

The program has the amount of resources that are involved partly because it plans for early rapid deployment of trains to bases and so you see funding there—I can get you the exact numbers for the record, or you may have them in terms of the numbers of trains and numbers of bases.

[The information follows:]

Fiscal year 1991 program funding is as follows: ($ millions)

RDT&E	548
Procurement	1,346
MILCON	269

This procures the first seven operational trains and construction at Barksdale AFB, LA; Grand Forks AFB, ND; and Fairchild AFB, WA.

Mr. DICKS. When you start thinking about it, it is expensive. It is approximately $233 million per missile to take them out of silos and put them on a train where, at least in the scenario of a surprise attack, where they would actually be more vulnerable.

Secretary RICE. May I comment on that point?

Mr. DICKS. Sure.

Secretary RICE. In an absolute bolt-out-of-the-blue, they would be more vulnerable. They are, of course, on alert just as they would be in the silos, but I don't want to argue for an option to launch under attack.

If you concede only enough warning that we have the crews on the trains, just on a dash—put that in quotes when you are talking about these trains—but just on a dash under attack, the trains are rolling only for 20 minutes or so will generate enough area of uncertainty that what it will take to attack them will be as large, or larger, than what it takes to attack them today in the silos.

Mr. DICKS. How much has been spent on Rail Garrision for fiscal year 1990 for both procurement and RDT&E?

Secretary RICE. Mr. Dicks, I don't have that at my fingertips.

General WELCH. I can tell you how much is required to complete the program.

Mr. DICKS. That is of some slight interest. Put it into the record.

[The information follows:]

As of 31 January 1990, none of the $102.6 million fiscal year 1990 procurement funding had been obligated or expended. Of the $774.2 million RDT&E funding, $288.2 million (37 percent) has been obligated and $21.7 million (2.8 percent) has been expended. The funding required to complete the program is as follows: (Then year $ millions)

RDT&E	2,472.2
Procurement	4,017.1
MILCON	638.9
Total	7,128.2

Mr. DICKS. How much is needed to complete the program? Six billion dollars?

General WELCH. Five point seven in then-year dollars.

Mr. DICKS. Is that including the 1991 money?

General WELCH. That is including the 1991 money.

Mr. DICKS. So it is $2 billion this year and $5.7 billion to complete with the $2 billion included.

Secretary RICE. Yes.

MOBILE MISSILE STRATEGIES

Mr. DICKS. You have three chairmen of the Joint Chiefs, Harold Brown and Richard Perle; that is a pretty good cross section, almost an amazing cross section, who say we ought to leave MX in the silos.

What is your best argument why we shouldn't, on the theory that this is a very expensive capability. They suggest the same thing about Midgetman. The theory is you put it in as a replacement to the Minuteman IIIs and put it in silo and reserve the

option for mobility and wait and see what the Soviets do. The synergism between the bombers and the submarines actually provide protection for the vulnerable land-based ICBMs.

What is wrong with that? We have to save money. I have been a big Midgetman supporter. But that makes sense to me if we did it on both systems and preserved the option of mobility, we could save money and put it in the strategic account. There is an argument that everything strategic can't be funded, and why do you have to do that with the changing relationship with the Soviet Union. Here is an area where we could have substantial capability but defer on mobility until we see how things go with the Soviets.

What is wrong with that?

General WELCH. We have to see how things are going with the Soviets. The Soviets have fielded a mobile single-warhead missile and a ten-warhead mobile missile. So that is how things are going with the Soviets.

Mr. DICKS. I appreciated what you said this morning very much about we didn't want to have the capability to hunt down their mobiles. Just because they go mobile, when they have 70 percent of their force structure in ICBMs, that shouldn't be something that we perceive as a great threat to the United States.

We have 70 percent of our ballistic missile forces in submarines that are mobile and highly survivable ourselves. They are reducing their vulnerability and that is something we decided to do sometime ago.

I am not certain that just because they have gone mobile that we should perceive that as a threat because it gives them more secure missiles like we have. It should enhance stability and not be a real problem for us.

Why should that be a problem for us if they go mobile?

Secretary RICE. It seems to me that a main issue here is again to go back to the first principle and understand why we are interested in doing this kind of program to begin with. It has to do with the result, that after what must be close to two decades of worrying, the problem of how to introduce survivability into the land-based missile leg of the Triad, the answer has come out mobility.

We were interested in survivability because we believe it is stability enhancing to have the forces be relatively less vulnerable to each other and thereby diminishing the likelihood that there would be an incentive to go ahead and strike because you could change the balance of forces dramatically by doing so.

When you look at our options, we are down to two: rail garrison and Small ICBM. And I think rail garrison comes first purely on grounds of availability and relatively much lower costs, and Small ICBMs come next because of the need to face things for budgetary reasons and because it is a higher cost, higher total cost program as well. That is how we got where we are. The reasons haven't changed at all.

There is no doubt that it is a more stable strategic balance with greater survivability in the land-based leg of the Triad than without it and the only thing I think one can say to your question is that, in the final analysis, a judgment is going to have to be made in light of the stringent budget what priority that option should enjoy.

Mr. DICKS. I have supported both systems. I favor Midgetman but in order to move ahead, I have supported a two-missile strategy in the past.

It seems to me that when you have the three former chairmen of the Joint Chiefs, you have Richard Perle and Harold Brown, all who basically have agreed that this might be one idea to consider, that is pretty powerful advice, it seems to me, that ought to at least be considered.

If we had all the money in the world and could fund everything fine, but if we have to come down further than we are now, it seems to me that that option ought to be given some consideration. But that is for later in the year.

What is the current U.S. position in arms control negotiations on mobile missiles and how has this changed since last year? Has it changed at all?

General WELCH. Yes. We withdrew our proposal that mobile missiles should be banned and are currently negotiating the number.

———.

Mr. DICKS. One of the major decisions that is going to have to be made this year that is going to affect us is the split between ICBMs and SLBMs under a START agreement assuming we get the limit at 4,900. How do you see that, General? What do you think that split ought to look like? Can you give us a little rationale for that?

General WELCH. I can give you the Air Force position. The Joint Chiefs have not arrived at a position, and I think that is a more useful position for you.

Mr. DICKS. Shouldn't that decision be made pretty quickly?

General WELCH. We are all right for 1991 in that if you would take the lowest possible level of either system, that is SLBMs or ICBMs, there is nothing in 1991 that would take you over the level.

In 1991 you are funding the 18th Trident submarine and long-lead on some items having to do with the 20th. Under the current position we would have at least two overall submarines that are noncounters.

Mr. DICKS. Do you think that is going to be in the START agreement?

General WELCH. I think so. I can't speak for the Soviets, but it seems to be getting a good reception because I think they would like the same thing. My point is that, with the 20 submarines we have some kinds of long-lead funding on, that is 18 counters. So 1991 funding is in good shape. We are not asking for any ICBM numbers ever that don't easily fit into the minimum number of ICBMs, so the issue on ICBMs is how many Minutemen do we retain and in what configuration. There is no proposal anyone has that would give you fewer ICBMs than we are asking the Congress to fund.

Mr. DICKS. You are asking to take out Minuteman II?

General WELCH. We recommended that we not spend the money for the long-term upgrade of the Minuteman II that would extend its life beyond what we regard as a likely execution period for START.

So what we are really doing is saying that with some funding, we can keep the Minuteman II viable for the full period of START im-

plementation. Our assumption is that by the time START is fully implemented, that the Minuteman II would be gone.

Secretary RICE. That is, we keep Minuteman II in a viable condition so we can subsequently decide to begin drawing down the Minuteman II force in fiscal year 1992. But such a decision would not be made until we have a START treaty.

Mr. DICKS. Then at some point you are going to have to decide how many Minuteman IIIs can remain. If you have 500 MXs, you have 2,000 total Minuteman warheads, that number is going to have to come down.

[CLERK'S NOTE.—Classified discussion removed.]

Mr. DICKS. Would that be your recommendation?

General WELCH. Depends on how we divide up the warheads.

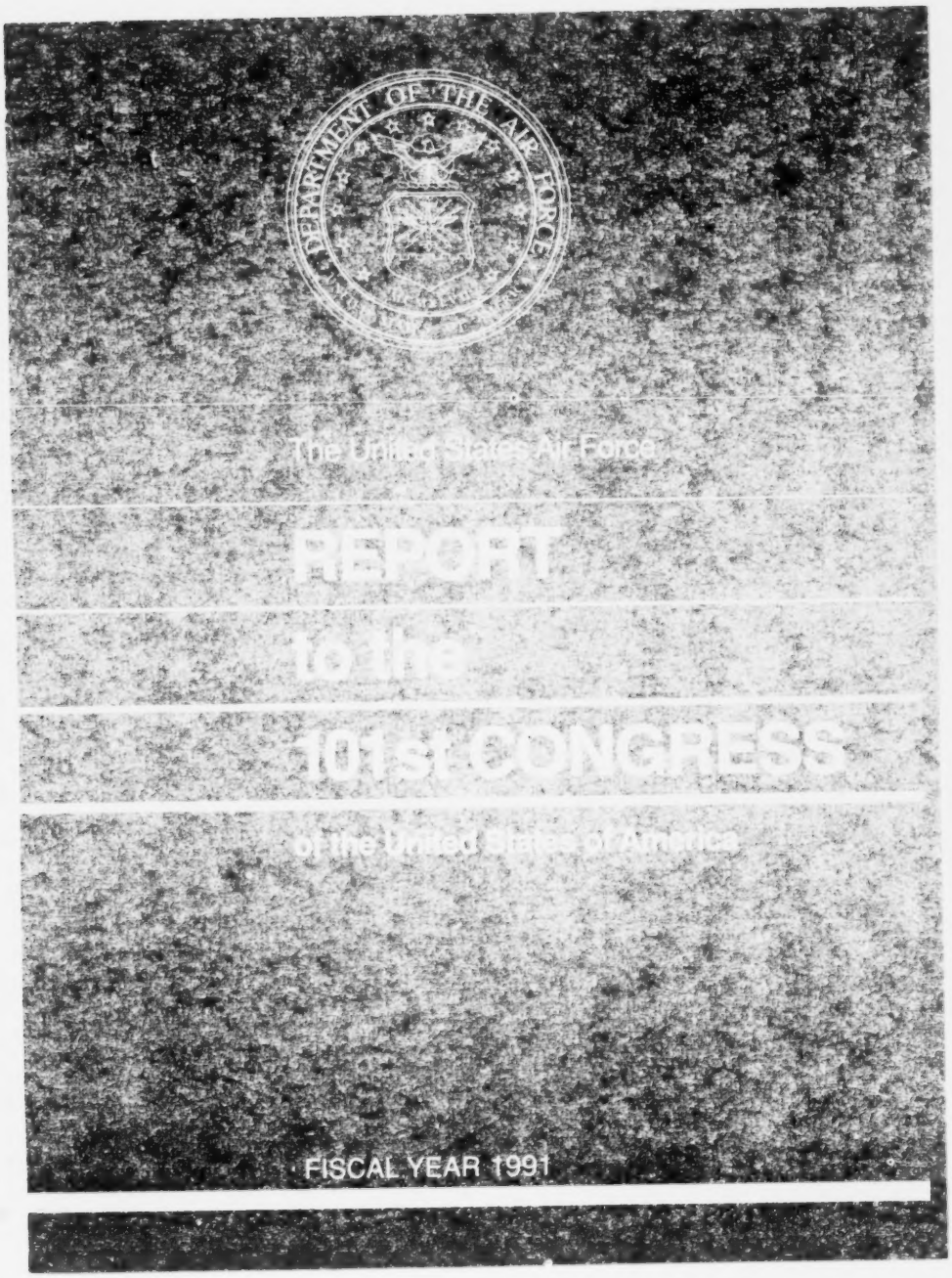
Mr. DICKS. How will that be decided?

General WELCH. The Joint Chiefs and Service Secretaries will be involved and recommend to the Secretary of Defense and the President. We have looked at a whole range of options with the purpose of assuring ourselves that we are not asking for anything in our budgets that might be overcome by a START agreement. So we want to be sure that the range of things that we are asking for fits into any reasonable combination of force structures.

Mr. DICKS. Thank you very much, General and Mr. Secretary.

The Committee adjourns until tomorrow at 1:30 p.m. with the Secretary of the Army.

[CLERK'S NOTE.—The Fiscal Year 1991 Air Force Joint Posture Statement as referred to on page 225, follows:]


DEPARTMENT OF THE AIR FORCE
The United States Air Force
REPORT
to the
101st CONGRESS
of the United States of America
FISCAL YEAR 1991

The UNITED STATES AIR FORCE REPORT to the 101st CONGRESS of the UNITED STATES of AMERICA

presented to the
COMMITTEES on ARMED SERVICES
and
DEFENSE APPROPRIATIONS SUBCOMMITTEES
of the
UNITED STATES SENATE
and the
UNITED STATES
HOUSE OF REPRESENTATIVES

FISCAL YEAR 1991

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INTRODUCTION

The mission of the United States Air Force is to organize, train, equip, provide, and support aerospace forces to deter aggression and, if necessary, defeat aggressors across the spectrum of conflict. This supports the most fundamental national security objective of the United States, the preservation of our free and independent nation with its institutions and values intact.

The national military strategy, based on deterrence, combines forward defense and flexible response to ensure that no adversary could ever expect to gain by attacking the United States or its allies. This strategy supports enduring national security objectives while providing for the coherent, cost-effective development of military forces.

During the past year, historic social and political changes swept the Soviet Union and Eastern Europe. The Soviets declared a shift to a defensive strategy of "reasonable sufficiency," while we made welcome progress in strategic and conventional arms reduction talks. If political reforms throughout the Warsaw Pact remain, East-West differences will narrow and may reduce the threat of a major war in Europe. For now, however, too many issues remain unsettled, and it is too early to predict the final outcome of these changes, but the direction is right.

While we have witnessed political changes by the Soviets, their military capabilities have not been fundamentally altered. The Soviet Union remains the only nation that has the military force to threaten the existence of the United States. While positively, our defense requirements must be based on existing and projected Soviet capabilities. Thus, we are challenged to respond constructively to new developments while managing the risks of an uncertain future.

Even if the Soviet threat recedes, the emergence of new powers, Third World conflicts, terrorism, and narcotics trafficking could all threaten vital US interests. These threats, evolving in a changed international environment, will likely be more diverse, less focused, and more global. Therefore the forces we maintain or develop to support our deterrence strategy must also be responsive to these potential future threats. The fast, flexible, power projection capabilities that can be provided only by air power will become increasingly vital.

Today's Air Force is more capable than at any other time in history. Nevertheless, 5 consecutive years of defense budget reductions and the prospect for further substantial cuts will constrain our future capability. Defense Management Review (DMR) initiatives will help offset the impact of declining budgets by reducing the cost of modernizing, operating, and maintaining the Air Force. DMR is already expected to provide $10.9 billion in savings for the Air Force through FY 95 from streamlining acquisition activities and from operational and training

efficiencies. But even with these efficiencies and the potential for additional savings, we must carefully balance our investments in four major areas: readiness, modernization, combat sustainability, and force structure.

Since fiscal realities will make it impossible to support each area fully, we will be forced to make difficult choices. As such, we must give priority to a ready force with quality people and modern equipment. To afford this priority, we will make painful reductions in force structure and sustainability. Because of the current international environment, we will accept the increased military risk inherent in a smaller, less sustainable force in order to preserve critical readiness and modernization efforts.

To maintain essential capabilities, we will seek to leverage all our investments. First, to maximize the readiness of existing forces, we will continue to focus on spares, support equipment, munitions, and training programs--the same things that have allowed us to generate almost 80 percent more tactical combat sorties than we could in 1980 and which have put the readiness of our bomber force at an all-time high. Second, we will improve existing systems with cost-effective modifications and upgrades. Examples include B-1B SRAM II integration, KC-135 re-engining, and F-16 engine upgrades, all of which provide significant increases in performance and durability for the existing force structure. Third, we will leverage our investment by developing new systems, taking advantage of US technological superiority. The B-2, C-17, and Advanced Tactical Fighter (ATF) are examples of this approach. We cannot afford to abandon current development efforts as long as legitimate unfilled requirements exist. Finally, we will maintain technological superiority through a broad, balanced science and technology program that will form the foundation of our future military capability. Prudent investment today will yield substantial dividends.

As we move to attain a leaner more flexible Air Force, we recognize that high-quality people are needed to fully exploit the technological capabilities of new weapon systems. With increasing competition from the private sector, we must place top priority on recruiting, retaining, and motivating the highest quality people. To that end, we will continue to provide a positive environment which protects the health and safety of our people, includes adequate housing, ensures competitive financial compensation, and maintains the many support programs which meet the special needs of our Air Force families.

The FY 91 budget marks a year of transition. The Air Force has developed a program that will sustain a high level of readiness while permitting us to continue priority modernization programs. Strategic modernization remains a priority with full funding requested for the B-2, Peacekeeper Rail Garrison, and Small ICBM. This is essential to deterrence under the currently agreed provisions of an expected START treaty. The Air Force will continue development of the ATF and Advanced Tactical Aircraft. These must be developed and deployed to maintain technological

superiority and preeminence in the tactical air arena. We will fully fund C-17, recognizing that strategic force projection is becoming increasingly vital, and that we must have a replacement aircraft for the aging C-141. Overall, the FY 91 budget will also position the Air Force to realize significant future cost savings through post-FY 91 reductions in force structure and forward basing if the past year's favorable developments continue.

MANPOWER AND PERSONNEL

Recruiting, retaining, motivating, and training quality people will challenge the Air Force throughout the new decade. The value of our people is intrinsic to all of our readiness, modernization, combat sustainability, and force structure decisions. Because fiscal realities have forced us to make concessions in the size and composition of our force, we must ensure that we continue to recruit and retain the best and the brightest. The Air Force depends on the quality and commitment of the Active, Guard, Reserve, and civilian men and women who guarantee our national security. Along with retirees subject to recall, they represent the foundation of our warfighting capability.

Competition for labor in a market defined by a shrinking pool of 18 year olds and low unemployment will tax our planned recruiting efforts into the mid-1990s. While the Air Force continues to meet its enlisted and line officer recruiting goals, competition from the private sector is already affecting retention. For example, we continue to experience major difficulty retaining pilots and physicians. Therefore, we cannot relax in our efforts to provide a competitive compensation package, which includes adequate pay and allowances, satisfactory government quarters or housing allowances, full permanent change-of-station reimbursements, quality health care, and other quality of life benefits.

FORCE STRUCTURE ADJUSTMENTS

Manpower Reductions. The Air Force is accepting manpower reductions in an effort to respond to fiscal realities while protecting readiness and modernization. Congressional action and the FY 90 Gramm-Rudman-Hollings sequester have forced the Air Force to reduce overall end strength without an associated adjustment to our mission, resulting in undermanning in field units. Furthermore, since we could not meet the Gramm-Rudman targets using only manpower reductions, other money-saving measures have been implemented. We reduced enlisted accessions from 54,000 to 36,000, cut Air Force Reserve Officer Training Corps and Officer Training School programs, implemented officer voluntary and involuntary loss programs, reduced permanent change-of-station moves, limited selective reenlistment bonus programs, and cancelled the Chief Master Sergeant High-Year-of-Tenure program.

The FY 91 Air Force end strength level requested in the FY 91 budget reflects a decrease of about 38,000 military authorizations from the FY 90 level requested in the FY 90 budget. Slightly more than one-half of this manpower reduction is associated with force structure/program reductions and includes base closure initiatives, Defense Management Review (DMR) reductions, and deactivation of B-52 aircraft at Andersen AFB. The

remainder of this manpower reduction (nonprogrammatic) must eventually be tied to a wide range of future force structure/program reductions. These changes bring the Air Force military end strength to its lowest level in 40 years. The programmed military end strengths for FY 90 (FY 90 President's Budget Amended (PBA)) and FY 91 (FY 91 President's Budget (PB)) are now 567,900 and 530,000, respectively.

Congress does not authorize a civilian end strength number, but allows DOD to manage the end strength by programming dollars. The change in civilian end strength between the FY 90 level requested in the FY 90 PBA and the level programmed in the FY 91 budget, reflects a reduction of over 4,200 civilian spaces. This reduction incorporates an arbitrary cut to the Base Operating Support (BOS) account, base closure initiatives, a reduction in civilian personnel specialists, DMR reductions, and those adjustments associated with force structure changes. Notwithstanding, the FY 91 PB includes a military to civilian conversion initiative accounting for an addition of over 3,100 civilians in FY 91. The programmed civilian end strengths for FY 90 (FY 90 PBA) and FY 91 (FY 91 PB) are 262,354 and 258,741, respectively.

Total Force. The Air Force Total Force policy, formalized in 1973, has evolved to the current policy for a mix of Active and Reserve component forces, using all available assets, to ensure that maximum military capability is achieved at minimum cost. We intend to allow as much force structure growth in the Air Reserve Component (ARC) as possible while maintaining a realistic balance between the ability of the Guard and Reserve to absorb that growth and the ability of the Active force to meet peacetime and contingency tasking.

Budget reductions have generated cuts across the spectrum of Active and Reserve forces. The effect on the ARC in the past two budget cycles has been to trim units during their conversion to more modern aircraft. ARC units have consistently achieved and sustained comparably high levels of capability for the missions assigned. However, missions that require high peacetime activity levels or alert commitments are usually better suited to the Active component. The force mix and the demographics of ARC absorption are continuously reviewed to optimize mission and cost effectiveness, while preserving the core Active force and safeguarding the nature of the Reserve component. Factors considered are peacetime and wartime activity rates, readiness requirements, minimum Active force levels, manpower efficiency, unit beddown considerations, and overall defense guidance.

Base Closure. This program encompasses the closure of five major installations (Pease, Chanute, George, Mather, and Norton AFBs) and the consequential realignment of force structure and personnel to 23 Air Force installations. This complies with the recommendations of the Secretary of Defense's Commission on Base Realignment and Closure. The closings can begin in January 1990 and extend through September 1995 and will provide outyear savings. The commission estimated that savings

over the next 20 years should lead to DOD-wide annual savings of $693.6 million and savings with a net present value of $5.6 billion.

The FY 90, 91, and 92 budget requests include up front money necessary to capitalize the Base Closure Account. The account will fund initial closures that will in turn generate savings and proceeds from property disposal to make the program self-sufficient by FY 94. The DOD requests are respectively $500.0 million, $916.5 million, and $915.8 million. The Air Force share of these requests, not including appropriated savings, is approximately $205.6 million, $425.9 million, and $425.4 million.

Local reaction to the program has been mixed with the most visible opposition coming in the form of two federal lawsuits, one filed in the State of Illinois and the other filed in the District of Columbia by a union representing federal employees. Both cases have been dismissed.

RECRUITING AND RETENTION

Military Pay. The planned force reductions in the Air Force make it even more critical that the Air Force be able to attract and keep the most qualified and motivated people. A key element of this effort will be our ability to make military pay reasonably comparable with that of the private sector.

Military pay raises from October 1982 through January 1990 were capped at a level below private sector wage growth, and as of January 1990, the comparability gap was 11.4 percent. The 3.5 percent pay increase in the FY 91 President's Budget will result in the comparability gap widening to 12.9 percent. While we have enjoyed a reasonably healthy recruiting and retention environment in spite of decreasing compensation comparability in recent years, we must guard against continued erosion of pay and allowances. Therefore, we need Congressional support for the 3.5-percent pay increase in FY 91, as well as increases in the outyears that are adequate to offset private sector pay growth and the rise in the cost of living.

Aviator Retention. The average cost of an initial mission ready pilot is about $1.0 million, but it takes several million dollars more to get that pilot to the "experienced" mid-career point. Therefore, the economic trade-off of funding retention incentives versus training and experiencing new pilots favors retention incentives.

Over the past years, both the Air Force and Congress have worked on possible solutions to the pilot retention problem. The FY 90 Authorization Act implemented the Aviation Career Improvement Act of 1989, a comprehensive package which addresses this issue for the Air Force and the Navy. This package includes provisions for increased Aviation Career Incentive Pay (ACIP), longer active duty service commitments (ADSC), a lengthened "gate" structure, a continuation of the Aviator Continuation Pay (ACP), a reduction of 5 percent of the non-operational

flying billets, and a review of aviator assignment policies and life insurance. Because the pilot shortage is a national problem, Congress also suggested that a Presidential commission be established to address the national shortage of aviators.

The Air Force welcomes the majority of the provisions. The ACIP increase helps to restore flight pay incentive value and contributes to the long-term solution to the pilot retention problem. Continuing the authority to offer ACP enhances our ability to retain pilots in the near term. The Air Force raised the ADSC for undergraduate pilot training (UPT) to 7 years in FY 87 and 8 years in FY 88, and anticipates having a 10-year ADSC fully implemented by FY 92. Similarly the Air Force does not oppose reductions in non-operational flying positions, since we have already reduced many billets and are studying the effects of additional and future reductions. The concept of increasing gates is understandable, but the first gate (9 of 12 years aviation service) leaves little flexibility for other assignment possibilities (Joint duty, professional military education (PME), career broadening, etc.). Although we understand the impetus behind aviator life insurance provisions, an increase to Servicemen's Group Life Insurance (SGLI) may be a more equitable alternative, not just for the aviator, but for all members. Finally, the Air Force agrees that the pilot shortage is a national problem and any additional help from the Federal or private sector in finding a solution is welcomed.

Early indications are that the environment external to the Air Force continues to be a "pilot's market." Airlines are hiring pilots at an unprecedented rate and are projected to continue this trend into the next century. The continued strong economic environment, coupled with relatively low unemployment rates, suggests the monetary incentives and non-monetary initiatives available for military members may not suffice. The Air Force and Congress will have to continue to look at creative new programs to enhance the retention picture.

Medical Professionals Retention. An area of increasing concern for the Air Force and Congress has been the serious decline in retention rates of health care professionals. The Air Force has a chronic problem attracting physicians, particularly specialists. We did not meet our physician recruiting goal in FY 89. Further, while we met our overall recruiting goal for nurses, we did not meet our requirement for nurse specialists. Several factors, both monetary and non-monetary, make it difficult for the Air Force to compete with the private sector for highly qualified physicians.

Special pays for health professionals are intended to better enable the Air Force to attract and retain qualified health professionals. These pays, which are governed by public law and administered through DOD directives, are intended to make military salaries more competitive with, but not comparable to, salaries in the civilian sector. Physicians, dentists, optometrists, and veterinarians currently receive special pay.

The Medical Officer Retention Bonus (MORB) was a temporary program designed to improve retention of DOD physicians. It was authorized by Public Law 100-456 and expired on September 30, 1989. In FY 89 the MORB was available to all specialty trained physicians who had 8 years of constructive service and who were not obligated for training beyond October 1, 1991. Due to these eligibility requirements, less than half of our physicians were eligible for the MORB. However, about 55 percent of those eligible accepted the bonus and 86 percent of those opted for a 4-year contract. Congress extended the MORB to September 30, 1990, and expanded the eligibility criteria. It is too early to judge whether or not the MORB has increased retention rates. However, over 800 physicians have new active duty service commitments because of their FY 89 MORB contract agreements.

The Air Force Surgeon General supports the establishment of a permanent special pay program that would deemphasize multi-year contracts and include both obligated and non-obligated physicians.

The Air Force is also pursuing non-monetary initiatives to improve physician retention. A recent survey indicated that in addition to inadequate pay, lack of support personnel was the primary reason physicians separate from the Air Force. Various medical treatment facilities have projects underway to increase the number of support personnel assigned. An initiative called the Cadre Consultant Program is being developed to increase physician-to-physician communication and improve professional development opportunities. The new program uses chief consultants to the Surgeon General as mentors to physicians at local medical facilities. In order to improve logistical support to physicians, an initiative called Project SUSTAIN was created. This program is designed to reduce unnecessary administrative work at the base level and to streamline MAJCOM approval of equipment procurement.

The Air Force is also working to address the shortage of nursing personnel. FY 90 legislation authorizes Registered Nurse accession bonuses of up to $5,000 for nurses who received no DOD financial assistance for baccalaureate education and who sign a contract to accept a commission and stay on active duty for at least 4 years. Congress also approved incentive special pay for Certified Registered Nurse Anesthetists (CRNA) of up to $6,000 for a 1-year active duty service commitment. Both bonuses are authorized through September 30, 1991.

The Air Force is concerned about recent negative trends in retaining dentists. For 3 consecutive years, we have experienced a decline in retention of non-obligated dentists. There is an increasing demand for dental services in both the military and civilian sector and a decreasing number of dental graduates. The number of first year dental students has dropped from a high of 6,300 in 1978 to approximately 4,000 in 1990. A 1988 American Dental Association survey shows only 8.4 percent of senior dental students considering government service compared to 19.7

percent in 1978. Compensation for military dentists must remain competitive in order for Air Force dental health needs to be met.

We look forward to further Congressional help in finding solutions to our medical professional retention problems.

Civilian Pay. The effectiveness of the General Schedule (GS) to support the Air Force mission by recruiting and retaining a well-qualified work force has deteriorated. Title 5 U.S.C. establishes comparability as the basic principle for salary setting in the GS. Yet, the monolithic GS has been fragmented by independent departmental efforts to seek alternative forms of relief. Title 5 U.S.C. also authorizes the Office of Personnel Management (OPM) to deviate from the GS when agencies document that recruitment and retention of employees are severely hampered. The Air Force, as with other Federal agencies, has out of necessity used this authority to increase salaries for certain occupations (e.g., nurses, civilian pilots, etc.) and locations receiving special rate (e.g., Boston, Los Angeles). More than 11 percent of Federal employees are receiving a special pay rate. The special rate authority, however, does not correct the GS; it merely postpones correction of the pay setting mechanism.

Now is the time for legislative change to the GS. The Air Force continues to support the concept of comparability with the private sector and believes this can be accomplished by pay reform that will more accurately reflect the markets in which we recruit and employ civilian personnel. OPM has completed major research that reflects many other similar research projects from the early 1970s, calling for a market sensitive approach to pay setting. The research recommends a partial dismantling of the GS to establish a market sensitive pay for clerical and technical employees and a standard schedule (with more clearly defined database) for professional and administrative employees. The Air Force supports this initiative and urges Congress to implement systematic changes rather than the fragmented approach that has been used to date to pay our civilian employees.

Civilian Personnel. With respect to civilian personnel management, we believe that the July 1989 Defense Management Review (DMR) report spells out the best vision of a more competitive, flexible system. While the report is focused on the acquisition community, we strongly concur in the report's statement that "personnel flexibility should apply to all organizations in the Department of Defense."

Congress stated the need for reform during the conference on the FY 90 authorization bill. While rejecting efforts to improve the pay of critical occupations and to demonstrate better personnel management systems, Congress agreed that "there is an urgent need to address the crisis in public service." We are gratified that Congress noted that action must be taken in the near term, pointing out that "the problems facing the public service are simply too critical to await the development of a solution that

will address every conceivable problem and interest . . . vigorous action . . . must be taken in the next few months. . . ."

We believe that the DMR report is an essential basis for enacting remedial legislation. The DMR report focuses on recruitment and retention that will permit us to compete for quality human resources in the austere environment of the 1990s. The report urges such changes as granting agencies the authority to directly hire personnel, to provide recruitment and retention bonuses, and to facilitate productivity/gainsharing programs.

While these proposals will largely be the focus of the civil service committees, we believe that the active support of each member of Congress will be critical in gaining enactment in this legislative session.

Further, as the Services focus on strategies for force restructuring, the need for flexibility becomes more critical. The ability to encourage separation through such means as phased retirement may be a critical means of retaining a vital and renewable civilian force. Likewise, the ability to increase training opportunities for current employees will be critical in avoiding a "hollow" civilian force.

QUALITY OF LIFE

Availability of Health Care. The availability of quality health care is one of the major concerns of Air Force families. Over the past 10 years, the number of beneficiaries has risen to approximately 3 million. Providing timely care for these people is aggravated by staff shortages, heightened emphasis on quality assurance, and an aging population. But the major factor affecting the availability of timely medical appointments continues to be the physician shortage.

The direct care system (military facilities) has reached a saturation point and new relief valves are required. Several years ago, we built CHAMPUS into the health care provider system to provide financial assistance when medical services must be provided by civilian physicians.

To further expand medical coverage to families, we are working an initiative known as catchment area management (CAM). This initiative provides local medical facility commanders the authority and funding to provide or arrange health care for patients from a variety of locally available resources. We are currently involved in a 3-year test to evaluate this concept. Our ultimate goal with CAM is to improve access to affordable, high quality medical services.

In the near term, we have implemented several programs to increase the availability of health care services. These include almost 400 partnership agreements for health care services; professional services contracting (for example, obstetrics/gynecology); three PRIMUS clinics (with two more planned and more to follow if they produce good results for our people); health care finder agreements with approximately 15,000 CHAMPUS providers (many offering discounts and increased

convenience); and over 200 VA/DOD sharing agreements for health care services at 53 medical facilities. We expect that improvements in military health care will continue to be a high priority issue during this legislative session.

Morale, Welfare, and Recreation (MWR). MWR programs are vital to the overall accomplishment of the Air Force mission. A recent survey of frontline commanders indicates that MWR has a direct impact on military life, morale, retention, and productivity. These are all critical factors in our ability to maintain a high state of readiness.

Over the past 3 years, the MWR Panel of the HASC has written legislation to help posture MWR for future budgetary reductions. Basically, the panel has encouraged MWR activities to operate in a more businesslike fashion. Recent legislation eliminated most appropriated fund (APF) support to category C (revenue-generating) MWR activities such as golf courses, bowling centers, and marinas and phased out APF support to open messes by FY 91 (funding exceptions were made for remote and isolated locations). This latter action includes removing all APF civilian and military employees from open messes and replacing them with an all non-appropriated fund (NAF) employee work force. Along with this guidance, the MWR Panel also directed the military services to limit the use of NAFs to pay for category A (mission essential) and category B (community support) activities and to shift APFs from category C activities to pay for category A and B programs (where authorized APF support). This action will require an extensive effort to migrate funds and people into the proper category. To ensure employees are not hurt in this process, the panel also directed the DOD to develop legislation, currently under consideration by the House Postal and Civil Service Committee, to permit the movement of benefits between the APF and NAF personnel systems.

In conjunction with direction to DOD to develop a portability plan, Congress also directed the Services, by October 1, 1990, to cease using APFs to reimburse NAF expenses authorized out of APFs. The Services are still using APFs to pay for NAF expenses authorized APF support (mainly personnel costs). The Air Force has approximately 2,100 NAF employees occupying jobs authorized to be paid from APFs. While the Services support portability legislation, they do not favor the Congressional mandate terminating reimbursement. The Services do not view reimbursement as a temporary substitute for portability but see it as a vital part of it. Without reimbursement, MWR employees will not be able to compete equally for lateral jobs or career development positions outside of their APF or NAF personnel system. Allowing reimbursement in conjunction with portability gives employees the option of staying in the same personnel system, if deemed more advantageous to their careers, with their salaries reimbursed from the appropriate fund source.

READINESS AND COMBAT SUSTAINABILITY

In the current climate of foreign political uncertainty and domestic fiscal restraint, maintaining readiness is a top Air Force priority. Ready forces provide the capability to rapidly respond to potential threats and to help control risks associated with dynamic, potentially unpredictable, change.

Combat sustainability creates and sustains warfighting capability by organizing, training, and equipping aerospace systems for deployment and employment. Both a peacetime and wartime activity, it exists at the forward edge of the battle area and throughout the combat theater and reaches back to the national industrial base, and in some cases even to international sources of supply.

Building and maintaining readiness and combat sustainability are ongoing processes, always undergoing evaluation and requiring a prudent balance among various spending areas to achieve realistic goals. We place a high priority on improving the combat readiness, as well as the staying power, of our forces. With the improved quality and realism of operational training programs such as Red Flag, we continue to increase the readiness of our operational crews. Major exercises and deployments of Active, Guard, and Reserve units to overseas operating bases provide operations and maintenance specialists realistic exercises in the environment in which they would fight. Improved training and more realistic experience continue to produce safety records considerably better than those achieved in the mid-to-late 1970s. Consistent with our strategy, we configure Reserve Component forces to ensure their effective engagement in global conflict within weeks from the development of a crisis. Active duty forces provide necessary combat capability day-to-day.

To provide sufficient combat sustainability, adequate spares, supplies, munitions, and fuel must be available to support expected operation tempos and probable periods of conflict. Adequate stocks, support infrastructure, war reserve materiel, and the industrial base must be prepared during peacetime. We continue to strive to improve industrial base capabilities, but this effort is constrained by budgetary considerations. The Air Force continues to work with all Department of Defense (DOD) and national agencies to offset the effect of budget reductions. Whenever possible, our acquisition policy provides incentives for the industrial base to sustain the logistics support of our forces. The Air Force will continue to strive to maintain peacetime spare parts stocks, procure adequate levels of wartime spares and equipment, perform critical aircraft modifications, improve the industrial base, and increase our sortie generation capability within the constraints of fiscal policy.

Common to the combat support structure of all weapon systems are air bases and their lines of communication (LOC). Air bases are critical junctures, because they are the sites from which operations are originated and supported,

while the LOCs are the routes for transmitting resources between bases. Because air bases are where the resources necessary to support combat are concentrated, they and their LOCs must survive to sustain combat operations.

OPERATION AND MAINTENANCE

The Operation and Maintenance (O&M) appropriation is the Air Force readiness account. Financial requirements in the O&M appropriation are influenced by force structure levels and activity rates. Examples of this are the number of aircraft and squadrons, the number of aircraft sorties and flying hours, equipment inventories, civilian end strength, deployments, the number of installations, and the quantity and complexity of vehicles and other equipment in operation. The majority of the O&M budget pays for fixed, must-pay bills such as flying hours and training, weapon system support and maintenance, equipment and facility maintenance, and contract operations. The Air Force builds the appropriation based on programmed force structure and operating activity levels such as flying hours, deployments, work years, and scheduled weapon system maintenance. O&M resources must be sufficient to support the force structure and to sustain a mission ready force of existing weapons systems as well as new or modernized systems. The O&M request reflected in the FY 91 President's Budget has been programmatically reduced in consonance with our ongoing force adjustments.

Even the most technologically advanced weapon systems are ineffective without sufficient O&M funding to perform their missions. Historically, analysts measured the military capability of a nation in terms of troop strengths and quantities of hardware, ignoring readiness. Our own experiences of the 1970s taught us the consequences of building a substantial weapons inventory without adequate logistics support. In the 1980s we built more than just quantity; we also incorporated essential resources for readiness and sustainability. However, recent budgets have challenged our ability to sustain these achievements that are at the heart of combat capability.

Depot Maintenance. Depot maintenance provides repair for all major Air Force weapon systems, subsystems, and support equipment. This program also funds Interim Contractor Support (ICS) and the Big Safari program (a classified program), and operates the Aerospace Guidance and Metrology Center at Newark AFB, Ohio. This program is a substantial portion of Air Force and AFLC Total Obligation Authority, and it has taken a fair share of funding reductions (i.e., Gramm-Rudman-Hollings, Congressional programmatic/non-programmatic, and Air Force/AFLC internal adjustments). Because of these funding reductions, the backlogs have fluctuated, which led in part to a Congressional floor on depot maintenance in FY 88. Although the floor was intended to support

readiness and sustainability, it has the potential to do just the opposite. It takes away the flexibility needed for commanders to respond to unforeseen requirements and, in some cases, creates an imbalance in other resources.

The current Defense Planning Guidance requires full funding of weapon system critical/mission essential exchangeable components. Funding for the exchangeable component repair program will transfer from the depot maintenance account to the stock fund account effective FY 91/fourth quarter. Funding shortfalls in depot maintenance directly reduce readiness and sustainability because they are felt most acutely in the operational units. Under severe funding shortages, the repair of aircraft spare parts will be deferred, resulting in increased cannibalization and use of war readiness spares, a reduction of mission-ready aircraft, and probable aircraft groundings. Additionally, spare engine inventories will be reduced, aircraft damage repair could be deferred, programmed depot maintenance intervals could be extended, and maintenance to support sortie production will be hampered.

Second Destination Transportation (SDT). Current and projected fiscal constraints have resulted in the implementation of controls for the use of these funds. These controls have lengthened the transportation pipeline and impact readiness and sustainability of our overseas forces. Arms negotiations, force structure, and basing changes will significantly increase transportation costs during all phases of a drawdown and may offset projected savings.

Real Property Maintenance (RPM). The Real-Property Maintenance Activity (RPMA) provides resources for operating, maintaining, and repairing Air Force installations. To ensure bases are ready to support wartime operations, RPMA resources are largely devoted to recurring maintenance activities, essential services, and the purchase or operation of utilities. The remaining RPMA funds are used for contracted facility projects to preserve and extend the useful life of the air base infrastructure. This infrastructure (the physical plant consisting of hangars, shelters, missile silos, airfield surfaces, C^3, maintenance, and other support facilities) provides the foundation for combat support, which in turn generates readiness and sustainability.

The Air Force's FY 91 RPM funding request represents our effort to correct deficiencies and maintain our facilities. Many of these facilities are more than 30 years old. We are faced with the fact that simple annual deterioration continues faster than the maintenance and improvement program we can afford within constrained funding. The mission impact of deteriorated facilities, while at times subjective, nevertheless has a measurable negative effect on productivity performance, quality of life, morale, and retention. The Base Closure Act represents a great opportunity to increase the cost-effectiveness of existing resources by consolidating some activities and closing some unneeded bases. However, other fiscal constraints on

MILCON put additional importance on RPM to extend the useful life of current facilities.

Real Property Backlog of Maintenance and Repair (BMAR). Funds for repair and maintenance of Air Force facilities are appropriated in the O&M accounts. These funds preserve and extend the life of facilities now valued at over $140.0 billion. These include many which contribute directly to readiness, such as runways and aircraft shelters, as well as support facilities and housing. O&M funding shortages in the mid-to-late 1970s resulted in large maintenance backlogs and deteriorating facilities and housing. In spite of some improved funding and Congressional support during the early-1980s, allocations were sufficient only to prevent extensive growth in maintenance backlogs. Due to overall budgetary constraints, RPM funding could not be increased sufficiently to arrest growth in the BMAR. The BMAR is expected to increase to $1.3 billion at the end of FY 90 and $1.5 billion at the end of FY 91.

BMAR reflects the condition of facilities and the inadequacy of past RPMA funding by quantifying the cost of deferred work. Congress has set a level of $300.0 million for BMAR; however, the Air Force backlog represents a 3-year queue of projects, indicating there will be serious delays in accomplishing essential maintenance and repair on operations and support facilities. Normal physical plant maintenance will not be performed when needed, resulting in further deterioration and increasing the eventual cost of repairs. Likely mission impacts will include degraded operational effectiveness, safety, readiness, sustainability, and quality of life.

Communications-Computers. The Air Force continues to develop the communications-computer infrastructure necessary to bolster both warfighting and support operations. This effort has been furthered by an approved system architecture covering the full range of communications and computers. This increases readiness by providing an infrastructure capable of quickly satisfying commanders' requirements and reduces costs through elimination of manpower-intensive operations and introduction of low-cost standard hardware and software. Efficiencies supporting all environments include improved integrated secure voice/data, more responsive user-to-user record communications, software portability, and increased survivability. These improvements are making long-haul communications more efficient and providing an integrated and affordable local base infrastructure, thereby maximizing warfighting capability. In order to achieve the cost savings under the Defense Management Review, we must obtain the programmed improvements in both communications and computers. With continued support from Congress, we will achieve the economies and efficiencies planned in a variety of functional areas.

TRAINING

Air Force training programs act as a force multiplier to readiness. As weapon systems and the threat have become more complex and sophisticated, training tasks and

requirements have become more complex. Consequently, training programs, training systems, and training devices can no longer be used as hardware tradeoffs.

Training systems and their components must be acquired, maintained, supported, modified, and managed as a standard feature of each new weapon system to ensure a concurrent training capability throughout the weapon system's life cycle. User requirements must be addressed through front-end analysis and must receive the same priority as the weapon system itself to realize each system's full potential and maximize combat capability.

Exercises. To meet FY 90 fiscal constraints, the Air Force reduced funding for our support of Joint exercises. The additional $5.0 million cut enacted by Congress for FY 90 further reduced this austere program. Air Force participation will be eliminated in several FY 90 and FY 91 major Joint exercises and will be reduced in several others. This translates to a direct reduction in CINC combat readiness.

Exercises provide training environments that give crews experience similar to actual combat missions and allow them to train on weapon ranges against simulated enemy defenses. Joint exercises with other Services are essential in order to train the way we plan to fight. The Air Force requires support of tactical and strategic range improvements and full funding of training munitions to maintain readiness. Continued Congressional support of such training is vital to our readiness.

Flying Hour Program. The FY 91 flying hour program is designed to meet aircrew training requirements and assure a responsive and ready force to meet national security taskings. Air Force flying hours decreased in the mid-1970s, stabilizing at slightly over three million hours annually. During the Vietnam drawdown in the mid-1970s, flying hours decreased to a level deemed insufficient to support desired aircrew proficiency and force readiness levels. In the 1980s, we began a period of slow growth, much of which was concentrated in the tactical air forces (TAF). This growth was due to the TAF Readiness Initiative, an OSD-directed program (FY 81) designed to produce yearly growth toward flying hour requirements for full combat capability in all weapons systems. The flying hour program grew steadily to a peak of nearly 3.5 million hours in 1985 when force structure changes and budgetary constraints reversed the growth trend, still short of the goal.

The total FY 91 Flying Hour Program, including the Air Reserve Components, is 3.3 million hours, approximately 3.0 percent below the FY 89 program based on force structure reductions. We have consistently flown more than 98 percent of our allocated flying hours over the past several fiscal years. In light of the growing fiscal constraints, we have frozen the FY 91 flying hours below requirements, at the FY 87 level of activity. The FY 87 level of activity has been deemed the

minimum level necessary for aircrew proficiency. Any further reduction would sustain only minimal flight currency levels and reduce overall aircrew combat capability.

Training Munitions. Training munitions are essential to readiness. The intent of training munitions funding is to provide support for all peacetime munitions expenditures (except missiles) by both Active and Reserve forces. The FY 91 request represents a sizeable increase in overall training munitions funding and in particular, munitions for aircrew proficiency. This increase is in response to major command and CINC priorities that place greater emphasis on training and the availability of training ammunition. The majority of the growth is in two areas: aircraft cannon ammunition and practice bombs. Although historical consumption rates can serve as a reasonable measure of future consumption, they are not the sole criterion. Other factors such as force structure, individual proficiency requirements, and availability of ranges are important as well. War reserve stocks are generally not depleted for training requirements, unless the inventory is excess in a specific War Reserve Materiel (WRM) ordnance, or storage shelf-life has been or will soon be exceeded, or particular incidents such as serious production problems warrant their use.

Annually, the Air Force expends approximately 3,000 live weapons during Red Flag, a simulated combat scenario in a realistic setting. The Red Flag goal is to have each crew participate in a live ordnance mission during each deployment. Approximately 70 percent of our air-to-ground tactical aircrews have live munitions experience, but this varies greatly at squadron level depending on location and aircraft type.

Aircrews employ live ordnance, both at home ranges and during deployments. Ground security forces use extensive target complexes and ground threat simulators to improve training quality and provide an ideal environment for live weapons employment. Aircrews, ground security forces, and munitions specialists alike benefit from the exposure to training with actual combat weapons.

LOGISTICS

Aircraft Spares. Aircraft replenishment spares are vital to readiness and combat sustainability. They support peacetime training and provide the ability to perform the actual wartime missions. Aircraft replenishment spares are unique because they are not readily available outside Service stockpiles, even in the event of war. In a national emergency, additional aircraft spare parts might not be available for 2 or more years because of procurement and manufacturing lead times. This long lead time is caused primarily by the current defense industrial base and the burden of supporting old and new aircraft technologies.

There are three categories of aircraft replenishment spares. Peacetime Operating Stocks (POS) support peacetime training, help keep aircrews proficient and aircraft ready,

and provide the foundation of spare parts for wartime sustainability. War Readiness Spares Kits/Base Level Self-Sufficiency Spares (WRSK/BLSS) are added to this inventory to support deployment and initial combat operations. WRSK supplies are air transportable packages maintained by units to support deployed operations during the first 30 days of conflict. BLSS stocks are designed to augment existing primary operating stocks to support the initial increased wartime activity for specific units that will fight the war in-place. Other War Reserve Materiel (OWRM) assets provide wartime sustainability after WRSK/BLSS stocks are exhausted and until industry mobilizes and achieves wartime production levels.

Beginning in FY 91, the Air Force will institute a new concept of management for aircraft replenishment spares. This new concept, which will be implemented in stages between FY 91 and FY 93, transfers funding responsibility from a central procurement account to the Air Force Stock Fund.

Munitions. Emphasis on top quality munitions continues to be important despite the current budgetary considerations. The existing air-to-surface inventory permits flying 100 percent of the projected sorties required in wartime; however, many of these sorties would be flown with other than the preferred munitions, thus increasing attrition of our fighter aircraft. Many of the munitions in our stockpile are general purpose bombs or cluster bombs. The majority of these are no longer in production and must be used for training purposes periodically.

Previously programmed increases in procurement of modern munitions have been slowed due to overall budget constraints, and the 6-year outlook no longer reflects the significant growth originally planned. Nevertheless, our revised program consists of an integrated, steady acquisition strategy that will improve total combat capability. To enhance our capability against critical surface targets, we are developing and procuring a new generation of more effective weapons.

Our current air-to-air munitions stocks are below required levels, and steady gains are vital to achieve sustainability. We continue to take delivery of AIM-9 missiles, while higher quality missiles are being developed to upgrade the capability of our air-to-air forces. The Advanced Medium-Range Air-to-Air Missile (AMRAAM) is currently being tested and phased into production, but at lower rates than previously planned.

Petroleum, Oil, and Lubricants. Adequate petroleum stocks are critical to sustaining sortie generation and ground operations. Even though we continually improve bulk-petroleum prepositioned WRM stock levels, a 25-percent shortfall still exists in storage capacity versus worldwide requirements, with major limitations in the European, Pacific, and Southwest Asian theaters. The Air Force and the Defense Logistics Agency (DLA) are responsible for programming funds for additional storage capacity and fuel stocks. The Air Force program addresses storage problems at specific locations, and DLA addresses shortfalls from a larger perspective. Currently we store about

one-fourth of our prepositioned WRM fuel requirement in on-base storage facilities and rely on DLA to maintain nearly half of our prepositioned requirement in wholesale system terminal tankage. The Air Force has numerous MILCON projects underway and has pursued, with some success, especially in Europe, host-nation support to increase WRM fuel storage.

In the next 6 years, the Air Force plans to fill more than three-million barrels of on-base WRM storage capacity at specific beddown locations. Hopefully, DLA's separately funded program will continue to allocate some additional terminal storage against Air Force requirements. By FY 96, these combined programs, if executed as planned, will substantially reduce but not eliminate the shortfall of prepositioned WRM. Our goal is to preposition sufficient stocks on base to support combat operations until resupply/redistribution from the wholesale system can meet or exceed daily demand. The Air Force remains committed to eliminating prepositioned fuel-storage shortfalls and to improving our ability to sustain sortie generation. The sustainability level requested in the FY 91 Air Force plan will cost $27.9 million to construct and fill on-base WRM fuel storage capacity.

Prepositioning. The objective of the Air Force prepositioning program is to provide US combat troops with a ready supply of equipment and other resources needed for rapid response in the event of crisis. To meet our objectives in the early days of conflict, we are storing equipment and supplies in Europe, Southwest Asia, and the Pacific. Resources stored within a theater could be subject to attack, but the need for these resources and the limited amounts of available intra-theater movement capabilities make the risk acceptable when balanced against overall readiness.

STOCK FUND

Stock Fund to Support Operating Mission. The Air Force Stock Fund (AFSF) budget request for FY 91 reflects three changes which implement Congressional direction specified in the FY 90 Defense Authorization and Appropriation Acts. First, no direct appropriated funding is requested for inventory augmentation for new weapon systems and missions; such requirements will be funded through stock fund surcharges. Second, the AFSF cash balance is reduced, thereby decreasing the requirement for surcharges and the requests for customer appropriated funds to pay those surcharges. Third, a total of $79.3 million is budgeted for partial reimbursement of the Merge ("M") account for aviation fuel billings.

Additional changes reflect Air Force implementation of DOD-wide initiatives for cost-saving efficiencies. Beginning with FY 91, the Stock Fund will incorporate replenishment spares and then, in FY 91/fourth quarter, depot repair of those spares. The FY 91 AFSF request, therefore, requires an appropriation of $301.2 million for depot-repairable WRM (a requirement formerly included in the Aircraft, Missile, and Other Procurement budget requests). This, when added to our annual consumable WRM funding requirement ($71.8 million for FY 91), equates to the

total AFSF WRM request of $370.0 million. Beginning in FY 91, the AFSF also assumes Inventory Control Point, storage, and other overhead costs associated with Stock Fund support. The FY 91 AFSF budget requests an additional direct appropriation of $887.9 million to support both inventory management and depot repair overhead costs during the transition to the new Stock Fund management concept (costs previously funded in centrally managed O&M appropriation for depot operations).

When fully implemented, the DOD-wide initiatives will improve the "buy versus repair" decision process, reduce total demands for repairable items, and better allocate total weapon system support costs to the operational units performing the mission.

MILITARY CONSTRUCTION PROGRAM

The MILCON Program for FY 91 supports new missions and readiness, as well as limited quality-of-life and work place improvements. MILCON is categorized as either New Mission or Current Mission. New Mission MILCON supports must-pay weapon system beddowns, force structure changes, and force sustainability and is considered to be direct mission support funding. Current Mission MILCON attempts to revitalize the existing physical plant through upgrade or replacement of facilities.

The Air Force strongly advocates increased military construction program funding -- today's investment in modern, efficient facilities produces tomorrow's enhanced productivity and readiness. The Air Force will continue to consider the rapidly changing National Defense environment prior to making investments in revitalization of our base infrastructure and funding projects to support new missions.

MILITARY FAMILY HOUSING

The cost, quality, and availability of housing for military families is a major concern for the Air Force. Adequate family housing is a high priority and directly affects morale. When off-base housing is not available or is too costly, the Air Force constructs housing units on or near the base. We currently own and operate over 140,000 such housing units around the world.

The FY 91 military family housing budget requests funding to continue revitalization of our housing inventory, the age of which averages 30 years. Even with this requested level, it will take 26 years to bring the backlog of about 80,000 units up to the newer construction standards commonly found in the civilian community.

AIR BASE OPERABILITY

Historically, air bases have been sanctuaries from which air forces could operate with minimal interference from adversaries. However, with the proliferation and improvement of threat munitions of all types and the development of longer range, higher payload threat aircraft, this is no longer the case.

The Air Base Operability (ABO) Program responds to this evolving threat by enhancing our capability to sustain operations at our main operating bases (MOB) and collocated operating bases (COB) prior to, during, and following conventional and/or chemical attack. ABO programs provide a spectrum of complementary and reinforcing capabilities to prevent, limit, and quickly repair damage to our air bases.

The ABO Program draws upon complementary funding from many Air Force appropriations, NATO infrastructure funding, and host nation and sister Service support. Programmed ABO capabilities fall into four distinct areas: defend, survive, recover, and generate. A fifth area, support, cuts across the other four areas and provides the foundation for all ABO programs.

Defend includes necessary warning and employment of air and ground defense forces against enemy forces attempting to attack our theater air bases and other critical assets. Programs include point air defense, area air defense, and air base ground defense.

Survive includes measures to minimize the effects of direct and collateral damage through protection of personnel and critical resources. Programs include chemical, biological, and conventional warfare defense and defensive construction.

Recover includes programs for restoring base capability following enemy attack. It includes such programs as rapid damage assessment, rapid runway repair, and critical facility/utility/communications restoration.

Generate includes requirements necessary to continue to generate, launch, and recover aircraft in a post-attack, degraded environment. Programs include contingency airfield lighting and mobile aircraft arresting system.

Support cuts across all program functional areas and provides the coordinating programs between areas. Programs include transportation, host nation support, food and water, and communications.

AIR BASE SECURITY

The security challenges facing the Air Force are varied and multi-faceted. Although local circumstances often determine the degree of threat to our people and facilities, the greatest threats generally originate from terrorism, insurgency, and espionage. These pose the greatest dangers because of their worldwide scope and volatility, in addition to their potential for causing harm to US strategic interests that exceeds the actual physical damage.

Significant steps have been taken to strengthen security in high threat areas through aggressive antiterrorism programs, the application of electronic security systems for detection, and the formation of rapidly deployable security teams to reinforce our installations overseas. The growing threat of narco-terrorism directed against units participating in the interdiction campaign warrants increased security for these forces at home and abroad.

The ground defense of air bases requires a combined effort of tactical combat, area security, and dedicated security forces. While Army and host nation forces provide the first line of defense against enemy forces external to an air base, the Air Force provides defenses against enemy forces attempting to penetrate base boundaries. Air base ground defense doctrine employs a posture which embraces an aggressive, pre-planned, and rehearsed in-depth defense. Close defense (on base) forces protect against individual and sub-unit infiltration and engage larger units where required. Main defense (off base) forces provided by the Army or host nation forces add a detection and early warning capability, as well as counter enemy stand-off weaponry. The FY 91 budget requests continued funding to organize and equip dedicated in-place and deployable ground defense forces.

BURDENSHARING

The Air Force recognizes that changing economic conditions, including fiscal realities in the United States, mandate that NATO pursue a more equitable distribution of the roles, risks, and responsibilities that are inherently part of any defense alliance. The current world economic situation, the dramatic changes in Eastern Europe, the public perception of a reduced threat, and the Conventional Armed Forces in Europe (CFE) negotiations are issues in which burdensharing must be addressed to preserve the Alliance which has avoided global war for over 40 years.

In the Pacific region, burdensharing is related to the reality that many countries can now afford to contribute more. Japan, and to some degree Korea, are increasing support for US forces stationed in their respective countries. Recently, Japan agreed to pay a 100-percent share of allowances for Japanese nationals working with US forces. In Korea, the government provides 134 installations at no cost to the US government and sponsors the Combined Defense Improvement Program which constructs facilities used by US forces.

MEDICAL WAR READINESS

Medical War Readiness provides a key part of overall readiness. The Air Force Medical Service mission is to ensure maximum wartime readiness by developing and operating a comprehensive, community-based health care system. We maintain the health and morale of Air Force members by providing or arranging timely, quality medical service for all active-duty members, their families, and other beneficiaries. During contingencies, this health care system must rapidly expand, mobilize, and deploy to provide medical support for Air Force operations worldwide.

The Air Force health care system provides critical mission support through the maintenance of a quality health care system capable of structured expansion to accommodate wartime casualties, health care services to sustain the force through its positive impact on recruiting and retention, and research designed to eliminate or reduce health hazards which would degrade military readiness.

The Air Force Medical Service has made substantial improvements in

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theater medical capability. All theaters are receiving stocks of medical materiel for their war reserve programs. For example, an aggressive WRM procurement program allowed us to purchase twenty-four 500-bed contingency hospitals, eighteen of which have been delivered to the European and Pacific theaters.

STRATEGIC FORCES

Strategic forces provide nuclear deterrence, worldwide conventional power projection, and strategic defense across all levels of conflict. While the prospects for a START agreement are high, the Soviets have made no visible or declared reductions to their offensive forces. Therefore, we must structure our force to be adaptable to the probable constraints and needs of the post-START era while maintaining deterrence in the face of capabilities that have yet to change. Given this requirement, we must have modernized forces maintained at high states of readiness.

NUCLEAR DETERRENCE

The Soviet Union is the only country, both today and in the foreseeable future, that has the capability to threaten the existence of the United States. While the Soviets have significant conventional capabilities, their ability to destroy our society resides in their modern, effective nuclear force structure. The threat these nuclear forces pose to the United States is best countered by a strategy which discourages their use -- deterrence.

Triad. In practice, an enemy's belief in our deterrent capabilities is based on his perception that we have both the forces and the will to carry out a devastating retaliatory strike. The strategic Triad of manned bombers, intercontinental ballistic missiles (ICBM), and sea-launched ballistic missiles (SLBM) is the foundation of this perception. Individually, no leg of the Triad represents an ultimate capability or deterrent solution; collectively, they complicate enemy attack planning, denying any chance of a successful debilitating strike. The Triad provides a high confidence barrier against technological breakthroughs, system failures, communication limitations, and unforeseeable "fog of war" factors. In short, the Triad ensures sufficient US forces survive an enemy attack to successfully retaliate against an aggressor.

The Triad is inherently resilient, and our commitment to readiness ensures it continues to meet the fundamental military objective of deterrence. However, to ensure a credible deterrent in the future, modernization must also be pursued. Through modifications of existing systems and acquisition of new ones, modernization reflects the extent of our national resolve and preserves stability by ensuring aggression will result in timely, effective retaliation. Cuts in readiness or delays in modernization increase our national security risks, now and in the future.

Arms Control. The purpose of arms control when coupled with effective deterrent forces is to reduce the risk of war. Our national defense program recognizes the joint value of arms control initiatives and strategic modernization programs, and the Air Force fully supports the President's

efforts to achieve mutual and verifiable strategic arms-reduction agreements with the Soviet Union.

While there is widespread optimism that the ongoing Strategic Arms Reduction Talks (START) will result in significant force reductions, it is unwise to embark on irreversible and unilateral force drawdowns before an agreement is concluded. Early force reductions should be carefully considered in order to preserve subsequent force structure options and not remove incentives for the Soviets to seriously negotiate an equitable treaty. On the other hand, prudent planning requires that decisions affecting projected force structures take into account both the needs of our military strategy and the provisions and timing of the anticipated treaty.

Even after a START agreement is reached, the Soviet Union will retain enough nuclear weapons to destroy the United States. Therefore, despite the potential benefits of arms control, true strategic stability will still require a credible nuclear deterrent. Furthermore, to be effective, the fewer weapons available in the post-START force structure will require each weapon to be of the highest quality and reliability. With or without a START agreement, our forces have been designed to underwrite a carefully thought-out deterrent strategy. Effective implementation of that strategy will require modernization of our deterrent force structure.

ICBMs. The ICBM is the most responsive element of the Triad. ICBMs have nearly a 100-percent alert rate and comprise nearly half of the nation's day-to-day alert weapons. They are capable of prompt response and can hold the hardest of the high-priority, time-sensitive, high-value Soviet warfighting assets at risk, including command and control facilities and ICBM silos. The silo-based ICBM's relatively low operation and maintenance costs, high reliability, secure and highly confident connectivity, planning flexibility, quick response time, and sovereign basing distinguish it among the strategic forces.

The United States has 1,000 silo-based ICBMs divided among three operational systems -- 450 single-reentry vehicle (RV) Minuteman IIs, 500 three-RV Minuteman IIIs, and 50 ten-RV Peacekeepers. The Minuteman II was initially deployed 25 years ago while the Minuteman III was installed in upgraded silos in the 1970s. Peacekeeper, our newest and most accurate ICBM, achieved full operational capability in December 1988, replacing 50 Minuteman III missiles in silos at F.E. Warren Air Force Base, Wyoming. Together, these three systems provide the United States a significant number of warheads at a high state of alert for less cost than any other Triad leg.

Despite the significant attributes of our silo-based ICBM leg, Soviet improvements in missile accuracy and changes toward harder fixed targets and increased numbers of mobile targets require us to improve on our ICBM capabilities. Some improvements, such as accuracy and system maintainability, can be completed as modifications. Others, such as mobility, can only be attained

by acquiring new systems or developing different basing modes.

Minuteman. Several programs are underway that improve the Minuteman III system. These programs are proceeding at a prudent pace, recognizing that a START agreement or fiscal constraints could precipitate changes to the ICBM force structure. In recognition of the fact that we could begin retiring Minuteman II as early as FY 92, we have reduced FY 90 and FY 91 funding from ongoing Minuteman II modification programs. However, the Air Force believes that it is important to maintain the reliability of this weapon system for as long as it remains on alert.

The Rapid Execution and Combat Targeting (REACT) program will ensure ICBM launch control center (LCC) supportability, resolve LCC operability concerns, improve ICBM responsiveness to launch directives, provide a vastly improved rapid retargeting capability, and improve training capability. Minuteman's aging Weapon System Computer (WSC) will be replaced with modern, current technology processors. In addition, new missile crew consoles will consolidate the weapon system control and communication equipment that is currently spread piecemeal throughout the LCC, placing launch-critical information and controls within arm's length of crew members. While REACT is focused primarily on Minuteman, it will provide maximum commonality between current and future ICBM weapon systems wherever practical.

Advanced Strategic Missile Systems (ASMS). The ASMS program, in contrast to the foregoing modification efforts, performs advanced development of key missile system technologies for operational ICBM applications. It is designed to provide timely solutions for ICBM mission changes and evolving threats. ASMS explores and matures technologies and concepts that enhance ICBM effectiveness. Some technologies being developed, such as penetration aids, will ensure ICBMs retain the ability to hold the entire range of Soviet targets at risk. Others, such as the strategic relocatable targets program, seek to enhance our ability to hold these types of targets at risk. Additional technology development programs provide options for force improvement, including ongoing efforts in guidance, propulsion, and materials.

ICBM Survivability. Soviet advances in missile accuracy increasingly threaten the survivability of our silo-based ICBM force. We are addressing this threat by providing mobility, and therefore improved survivability, to the land-based missile force to increase the stability of our post-START Triad. Two programs -- Peacekeeper Rail Garrison and Small ICBM -- will provide survivability and complicate Soviet targeting tasks.

Peacekeeper Rail Garrison. The initial deployment of 50 Peacekeepers in Minuteman silos was aimed at offsetting the Soviet advantage in prompt, hard-target kill capability as quickly as possible. However, it did not significantly improve the survivability of silo-based

ICBMs. Peacekeeper Rail Garrison will increase ICBM survivability by removing Peacekeepers from the silos and rebasing them on trains in secure garrisons on Air Force bases. Operationally and fiscally, this is the most effective way to obtain a modernized, more survivable ICBM force. Rail Garrison can respond immediately to a highly unlikely "bolt-out-of-the-blue" attack with its low-cost, nearly 100-percent peacetime alert mode and ability to launch directly from garrison. For crises that develop over time, trains can, upon national need, rapidly transition to a highly survivable mobile configuration on the nation's railroads. Peacekeeper Rail Garrison's flexibility and survivability across the span of nuclear conflict will make a substantial contribution to improving Triad effectiveness.

Small ICBM. Small ICBM, currently in development, will also modernize our ICBM forces while complementing the attributes of Peacekeeper Rail Garrison. It will be placed on hard mobile launchers (HML) that could be deployed on existing Minuteman launch facilities (LF) or in a random movement mode in the southwest. If based on LFs, HMLs could dash off-site upon tactical warning, widely dispersing the Small ICBM force and achieving a high level of survivability in less than 15 minutes. In contrast, the southwest basing mode insures survivability through day-to-day dispersal and random HML movements.

ICBM Deployment. While both Peacekeeper Rail Garrison and the Small ICBM significantly enhance our ICBM capabilities, the current status of the programs and today's fiscal environment require a measured approach to acquisition. Consequently, the systems will be deployed sequentially rather than concurrently. We will meet our near-term mobility needs by transitioning the operational Peacekeeper force to Rail Garrison basing while research and development on the Small ICBM will continue at relatively modest levels. This approach allows Peacekeeper Rail Garrison to become operational in the FY 92-93, timeframe while the Small ICBM will reenter full-scale development (FSD) in 1992 with a projected initial operational capability of FY 97.

Bombers. Bombers are the most flexible leg of the strategic Triad. They can be launched to either increase their survivability or to signal national resolve during a time of national crisis before a decision is made to employ weapons. They can be redirected or recalled, accomplish attack assessment, and be reconstituted for follow-on missions. Additionally, bombers offer the best potential for searching out and striking relocatable targets.

The United States' strategic nuclear bomber force consists of B-52H, FB-111, and B-1B penetrators equipped with short-range attack missiles (SRAM) and gravity bombs, and B-52Gs and B-52Hs with stand-off air-launched cruise missiles (ALCM). Some changes to bomber force structure will occur, such as transferring FB-111s to the tactical air forces and retiring some conventional and ALCM-capable B-52Gs, but manned bombers will continue to deliver a large percentage of the

weapons dedicated to the Triad's nuclear deterrent mission. However, the continuing modernization of Soviet air defenses and changes in the target base make modification of existing bomber systems and acquisition of the B-2 essential.

B-52. The B-52 remains a vital element in our manned bomber forces. Past modifications have expanded and enhanced the capabilities of these 25-year-old aircraft, allowing us to maximize the return on our investment in the original airframe. In the same vein, current and future modifications will enable the B-52 to continue its nuclear deterrent mission while improving its conventional warfighting capabilities.

To date, the major focus of B-52 modifications has been attaining carriage capability through the Cruise Missile Integration (CMI) program. All B-52Gs with a nuclear deterrent mission have completed the external CMI modification and the last B-52Hs should be finished this year. B-52Hs will also be modified with the Common Strategic Rotary Launcher (CSRL), providing internal ALCM carriage for eight cruise missiles. The CSRL will also be capable of carrying gravity weapons and has growth capacity for SRAM II, the Advanced Cruise Missile (ACM), and future standoff weapons.

Electronic countermeasures (ECM) improvements continue with the ALQ-172(V1) on all ALCM-capable B-52Gs and the ALQ-172(V2) on B-52Hs. These systems will counter significant advances in Soviet surface-to-air missile and airborne interceptor systems that threaten the mission effectiveness of the B-52 aircraft. The ALQ-172(V1) is the baseline for the ALQ-172(V2) program and provides a limited but well-defined capability against new-generation Soviet fighters. These systems are automatic, utilize power management, and are software reprogrammable. They also incorporate improved detection, processing, warning, prioritization, countermeasures, and displays that will effectively counter both existing and projected threats through the end of the decade.

B-1B. The B-1B, our newest frontline bomber, performs today's penetration mission better than any other operational aircraft in the world. Current flight tests have demonstrated the inherent capability of the basic aircraft design and the automatic terrain following system. A typical penetration profile of 200 feet above ground level at speeds in excess of 600 miles per hour has been successfully tested over both flat/rolling and mountainous terrain. Nevertheless, flight test activities revealed that, while some important ECM techniques did work, a deficiency in the basic design of the defensive avionics system precluded achieving full system performance. After completing a broad-based review, the Air Force decided to proceed on a two-tiered recovery plan. First, a "core" program with the defensive avionics contractor will provide a common fleetwide configuration, mature the on-board maintenance diagnostic system, complete logistics support efforts, field the tail warning system, and improve reliability against key threats. During the second phase of the recovery plan, the Air Force intends to install a stand-alone radar warning receiver to

augment the "core" system and provide improved situational awareness to the crew. When implemented, this recovery plan will complete the baseline B-1B ECM development and maintain the aircraft's ability to meet foundation for future growth.

B-2. Continuing improvements to Soviet air defense systems and a target base that is evolving to increasing numbers of mobile systems and harder fixed structures tax the ability of the B-52s and B-1Bs to penetrate while increasing the importance of accomplishing the bomber mission. The contribution of the bomber force to the Triad will increase in the future, especially under START which acknowledges the stabilizing nature of manned penetrating bombers, i.e., providing an assured retaliatory capability without posing a first strike threat. While continued improvements to current forces are vital, only the capabilities that the B-2 can provide will guarantee the continued viability of a balanced nuclear Triad. The penetrating bomber provides the only means to assure adequate target coverage under the current START framework. The B-2, due to the bomber counting rules, is the key to military sufficiency under START and is the basis for the current US negotiation position.

Technologically, the B-2 represents a generational leap incorporating capabilities unattainable with conventional airframes but required in response to enemy air defense modernization. It effectively integrates US low-observable technologies (radar, infrared, electromagnetic, visual, and acoustic) into a large, aerodynamically efficient aircraft, creating a highly survivable bomber with long range and a heavy payload capacity. The B-2's low-observable characteristics significantly reduce the response time of enemy forces, providing the B-2 the best opportunity to penetrate sophisticated air defenses and attack targets with a wide range of weapons.

The B-2 program is currently in its flight test phase. The first aircraft flew on July 17, 1989, and the flight test plan has continued on schedule. We have completed the first phase of the flight test program, logging more than 31 flight hours on eight test flights. The test program has been an unqualified success to date, with many significant test objectives completed, such as the major expansion of the flight envelope to above 35,000 feet, sequential airstarts for all four engines, and air refueling with the KC-10. In fact, aircraft handling qualities have been as good as or better than predicted in the simulator. The immediate future of the test program will be devoted to preparation for low-observable testing in late FY 90. The static test aircraft is scheduled for delivery to the Air Force in early 1990, and three other air vehicles are in various stages of final assembly at Palmdale. Five of the six FSD aircraft are to be operationally configured at the completion of the flight test phase and delivered to the Strategic Air Command, giving a total of 132 operational aircraft. The B-2 will ensure the bomber's unique contributions to the Triad remain effective well into the next century.

Advanced Cruise Missile. The ACM is a second generation cruise missile that provides significantly greater range, more targeting flexibility, better accuracy, and greater survivability than ALCM. It is most effective against preplanned, fixed, hardened targets, and its low-observable features increase its probability of arrival against even the most well-defended targets. As of December 1989, the ACM test program had completed a total of 12 successful test flights, including the last five in a row. As a result of these successful test flights, the Air Force is looking forward to FSD completion and a full-scale production decision in FY 90.

SRAM II. SRAM II is a replacement for the SRAM-A and will be used on the B-1B and the B-2. The aging SRAM-A has experienced propulsion problems during operational testing and an increasing component failure rate. It faces a decreasing spare parts inventory and warhead safety issues. Our initial approach was to upgrade the SRAM-A, but analysis indicated that every major element of the current missile would require changes. Furthermore, improved defenses coupled with a harder, more mobile target base require performance improvements. The SRAM II is designed to meet these needs. It will effectively strike hardened, defended targets from longer ranges and will provide a better capability against relocatable targets than SRAM-A. Its supersonic speed allows it to strike ahead of the bomber to destroy terminal defenses in case the aircraft must overfly a heavily defended area to release a high yield gravity weapon. Its more flexible launch envelope allows a much greater off-axis attack capability that will make SRAM II the preferred weapon against relocatable targets. Other attributes include increased reliability, more favorable size and weight characteristics, and improved penetration flexibility when compared to existing air-delivered missiles.

The Critical Design Review (CDR) for SRAM II has been delayed because of propellant development problems. The initial "Pathfinder" motor performed well in test firings but the propellant cracked during cold temperature cycling. A new propellant is being developed, and the CDR will be completed after the propellant demonstrates that it meets all requirements.

Strategic Command, Control, and Communications. The credibility of US nuclear deterrence requires positive command, control, and communications (C^3) between the National Command Authorities (NCA) and our strategic retaliatory forces. Our C^3 systems also link the NCA to senior force commanders, command centers, attack warning systems, and defensive forces. By ensuring effective communications among detection systems, the national leadership, and our military forces, modernized C^3 will guarantee receipt of critical messages affecting survival, prompt response, replanning, or strike termination. In the past, C^3 systems have not kept pace with the threat. However, recent improvements coupled with planned modifications and new systems will provide the flexibility, speed, reliability, and endurance required to ensure the Triad can respond to any situation.

Two key strategic modernization programs that will enhance the NCA's ability to send execution commands, or emergency action messages (EAM), to our retaliatory forces are Milstar and the Ground Wave Emergency Network (GWEN). Milstar is a long-range satellite-based system that will provide assured global, jam-resistant communications in a stressed environment. GWEN has already achieved an initial capability and is a dispersed network of radio relay stations and user terminals designed to ensure connectivity to nuclear forces.

In addition to Milstar and GWEN, several other programs will improve EAM dissemination. The Aircraft Alert Communications Electromagnetic Pulse (AACE) upgrade will provide electromagnetic pulse (EMP) screened rooms at 24 SAC main operating base command posts for receiving and disseminating EAMs to aircrews at their aircraft or alert facilities. Since low-frequency/very-low-frequency (LF/VLF) radio is less susceptible to nuclear effects, modernizing the Minimum Essential Emergency Communications Network (MEECN) LF/VLF airborne transmission system will provide more robust EAM dissemination between airborne command posts, combat operations centers, and strategic nuclear forces. Other MEECN enhancements include production of a LF/VLF receive-only Miniature Receive Terminal (MRT), allowing the Triad's bomber leg to tie into this survivable communications net, and development of LF/VLF receivers for SAC dispersal bases and Peacekeeper Rail Garrison launch control centers. Selected command posts and designated Defense Satellite Communications System (DSCS) satellite ground terminals will get the Single Channel Transponder Injection Subsystem, a system that provides uplink dissemination of EAMs at frequencies and modulations less susceptible to jamming and high-altitude nuclear burst effects. Lastly, the Automated EAM Processing and Dissemination System (AEPDS) program will automate the current manual method for encoding and decoding EAMs from the NCA to the nuclear forces of all Services. This system will automatically inject encoded EAMs into C^3 systems and automatically decrypt and display the EAM at the force level, greatly improving the speed of accurate EAM dissemination.

The Cheyenne Mountain Complex (CMC) houses the command post of the North American Air Defense Command (NORAD) as well as the computer and communications systems that monitor and assess the air, ballistic missile, and space activities of the Soviet Union and other countries. Several upgrades are programmed for this complex that will enhance NORAD's ability to process and display threat warning information, support CINCNORAD's and USCINCSPACE's threat assessment, and facilitate NCA decisionmaking. In addition, the Offutt Processing and Correlation Center will provide a second node for integrated threat warning and attack assessment as well as making missile warning information available to CINCSAC.

The most survivable C^3 elements are the Worldwide Airborne

Command Posts' (WWABNCP) E-4B National Emergency Airborne Command Post (NEACP) and EC-135 aircraft. To improve their connectivity to our retaliatory forces when airborne, an improved LF/VLF, high-power transmit set is programmed. In addition, the PACER LINK program is modifying the EC-135s with miniaturized, EMP-hardened, frequency-division multiplex UHF systems. The aircraft's C^3 area is also being rearranged into two standard configurations to replace the existing seven configurations.

CONVENTIONAL POWER PROJECTION

Many of the attributes that make manned bombers effective nuclear deterrent systems also contribute to their ability to project conventional power worldwide. For the foreseeable future, Soviet conventional superiority, armed Third World adversaries, declining available forward bases, and state-sponsored terrorism will require the United States to have a long-range, conventional bomber capability to protect our vital national interests. At present, B-52Gs not equipped with ALCMs have been dedicated to this conventional mission. However, the operational requirements for conventional missions continue to increase in all theaters. Therefore, while most of the current strategic conventional capabilities are focused on our dedicated B-52 forces, the significant conventional capabilities of the B-1B and B-2 may become increasingly important as Third World countries continue to attain sophisticated air defense systems.

The B-52 supports the Unified CINCs in a variety of conventional roles. Its ability to deliver large, varied payloads over great distances at night and under adverse weather conditions provides a capability found in few other weapon systems. B-52s launched from bases in the United States can attack targets anywhere in the world in a matter of hours. For limited operations, this reduces the need for host-nation support or forward bases in remote areas. As presently equipped, they can conduct sea surveillance, standoff ship-attack (using the Harpoon missile), and mining operations in cooperation with our maritime forces. However, theater CINC requirements necessitate an expanded B-52 conventional capability. For this reason, we are increasing our ability to accomplish the conventional mission through improved munitions and sensors, helping to satisfy growing conventional requirements without adversely impacting the strategic forces available to support our nuclear deterrent posture.

B-52 Modifications. Several modifications are being undertaken to ensure the continued reliability, maintainability, survivability, and effectiveness of the conventional B-52G force. Some modifications directly affect the weapons-carrying capability of the aircraft. The Integrated Conventional Stores Management System (ICSMS) modifications, for example, ensures B-52G compatibility with future conventional weapons. ICSMS restructures the offensive avionics system (OAS) software to provide the most cost effective solution for incorporating advanced conventional weapons on B-52s. In a similar vein, some B-52Gs have been modified to employ the HAVE NAP missile,

providing a conventional standoff capability against high value point targets.

Other modifications will further enhance B-52G combat effectiveness. Installation of the ALQ-172(V1) ECM system will increase survivability. Navstar Global Positioning System (GPS) will improve aircraft navigation and positioning, while the night vision goggles/heads up display (NVG/HUD) modification will enable aircrews to better employ improved night low-level tactics during conventional weapons delivery.

Future modifications will continue to focus on providing the B-52G with an enhanced standoff capability, reducing the need for supporting forces, enhancing tactical surprise, and minimizing risks to national assets. An effective conventional capability can put high value targets at risk regardless of the target's point defenses. The B-52's responsiveness and long-range capability, coupled with a credible standoff system, will allow us to meet this critical need.

STRATEGIC DEFENSE

Strategic defense must provide the NCA the ability to posture forces for survival, limit damage from attacks, and respond appropriately to an attack on the United States. The ability to accomplish these tasks enhances our deterrent posture. Functionally, strategic defense is divided into three sub-mission areas: ballistic missile defense, atmospheric defense, and space defense. Modernization in each area is necessary to offset growth in Soviet strategic offensive capabilities, maintain our deterrent's effectiveness, and respond to concerns over third-country ballistic missile proliferation.

Ballistic Missile Defense and Early Warning. While the United States does not currently have an operational ballistic missile defense, our ballistic missile warning systems provide tactical warning and attack assessment (TW/AA) information to the NCA to allow accurate and timely decisionmaking. Current TW/AA is provided by space-based systems, the Ballistic Missile Early Warning System (BMEWS), the Perimeter Acquisition Radar Attack Characterization System (PARCS), and PAVE PAWS phased-array SLBM detection radars.

Two ballistic missile early warning system modifications are currently underway. The first, modernization of the obsolete BMEWS site at Fylingdales, United Kingdom, replaces the existing mechanical detection and tracking radars with a new, three-faced phased-array radar providing 360° of coverage. The upgrade allows the system to predict more accurately the impact points of increased numbers of smaller, more closely spaced objects that would constitute a modern multiple independently-targetable reentry vehicle (MIRV) attack. This program is allowed by the 1972 Anti-Ballistic Missile (ABM) Treaty since the Fylingdales radars were initially deployed prior to the treaty's signature, and this upgrade entails simply replacing obsolete radars at a current radar site. The Fylingdales modernization is a joint US/UK program, with the United Kingdom

responsible for facility construction while the United States is responsible for radars, computers, software, and integration.

The second modification program under ballistic missile defense is the automated data processing (ADP) replacement at the northeast and northwest PAVE PAWS sites. The Cape Cod AFS and Beale AFB sites were the first two PAVE PAWS radars deployed. They are undergoing computer upgrades to eliminate supportability problems and provide commonality with the other two, more modern sites.

Atmospheric Defense. During the 1960s and 1970s, the atmospheric defense posture was adjusted to reflect that the primary Soviet threat to the United States changed from penetrating bombers to ballistic missiles. Today, Soviet development of air- and sea-launched cruise missiles, as well as an expanding bomber threat, add urgency to the requirement to upgrade our air-breathing detection and interception capabilities. Our current atmospheric TW/AA capabilities include Over-the-Horizon Backscatter (OTH-B) radars and the North Warning System (NWS), a line of minimally attended and unattended microwave radars that is replacing the Distant Early Warning (DEW) Line. Our modernized fighter force of F-15s and air defense-modified F-16s will intercept and identify unknown radar tracks. When completed, this integrated network of detection radars and modern interceptor aircraft will provide a more effective atmospheric defense system for North America.

The present and near-term atmospheric threat to North America requires interceptors with increased detection ranges, a look-down, shoot-down fire control system and armament, and increased range and endurance. To meet these needs, F-15s and F-16s are replacing less sophisticated F-4s. Although the F-16s must be modified to provide a radar missile capability, some units have been modernized with F-16s without the air defense modifications. These aircraft will be modified as soon as feasible.

The ongoing acquisition of atmospheric surveillance and warning radars continues to upgrade our detection and intercept capabilities. By FY 91, eight OTH-B sectors will be funded, providing early warning of aircraft attack at ranges of 500 to 1,800 miles. The OTH-B radars are oriented primarily to the east, west, and south, and take advantage of atmospheric phenomena to attain their long range. To the north, however, atmospheric disturbances render OTH-B radars less effective. To improve detection capabilities in this direction, the NWS's long-range and short-range radars will replace the aging DEW Line. The entire NWS complement of 15 long-range radars and 39 short-range radars will be procured by FY 91. Once installed and operational, the NWS will provide effective radar coverage to the Arctic approaches to North America.

Space Defense. As outlined in the Air Force Space Policy, space defense is a segment of space force application. Therefore, the Strategic Defense Initiative (SDI) is discussed in the Space chapter of this report.

TACTICAL/THEATER FORCES

With the continued support of Congress, our tactical air forces must remain a highly capable, modern, and ready force. They must be ready to respond to a variety of contingencies, not only in Europe but anywhere on the globe.

The most difficult challenge to US interests, continues to be the threat posed by Soviet forces. Reform in the Soviet Union and Eastern Bloc, as promising as it might be, must not obscure our awareness of a very potent Soviet force structure. While President Bush and General Secretary Gorbachev are pursuing significant arms reduction initiatives, the Soviets continue to introduce technologically advanced aircraft, upgrade their air defense capabilities, and improve their command and control (C^2) systems.

We also face less difficult but more probable challenges from lower level conflicts which could threaten our national security interests. From Europe, to the Pacific, to the Arabian Peninsula, and throughout the Third World, tactical forces must be ready and able to support national security objectives.

We must meet these challenges despite a diminishing defense budget. To maintain a fully capable fighter force in an era of constrained funding, we will begin reducing our fighter force in FY 91. Due to fiscal constraints and the current political environment, we will assume the increased military risk inherent in a smaller force in order to protect readiness and modernization. In addition, this smaller force will be more reliant on timely strategic warning to insure forces can be employed in sufficient time to achieve their war-fighting objectives. To maintain the necessary balance between force modernization and force structure, the Air Force plans to procure 186 tactical fighters in FY 91 (36 F-15Es and 150 F-16C/Ds).

We will partially offset the reduced force structure by modifying current inventory aircraft to increase capability, maintainability, and service life. We are also developing future weapon systems with a close eye on procurement, operating, and support costs to provide an effective but affordable force. Through modification programs and cost control measures such as these, we are leveraging our investments, enabling us to field a ready and capable tactical force.

Finally, we are working to achieve the right balance of Active and Reserve forces while equipping the Reserve forces with up-to-date equipment. The Air Reserve Component constitutes about 30 percent of the total tactical fighter force. These forces have demonstrated quick response and effectiveness when called on to augment the Active forces. Current and programmed modernization efforts ensure they will retain capabilities comparable to the Active units they augment. Reserve and Guard units will re-equip with F-l5s and F-16s to replace older, less capable F-4s. By the end of FY 90, there will be 23 Air National Guard/Air Force Reserve (ANG/AFR) units (including 2 training units) equipped with the F-16.

Also, the remaining F-4s/RF-4s will continue to be modified with low-smoke engines, an improved Navigation Weapons Delivery System, and an AIM-9L/M capability to make them more survivable and lethal.

SOVIET FORCE DEVELOPMENTS

Although Soviet defense spending, especially in procurement, appears to have declined somewhat in 1989, the Soviet Union continues to represent a formidable military challenge to the United States and its worldwide interests. The Soviet air forces continue to introduce more capable aircraft like the MiG-29 FULCRUM, the MiG-31 FOXHOUND, and the Su-27 FLANKER B. Each possesses state-of-the-art avionics and armament systems, similar to our front-line fighters, giving them true look-down/shoot-down capability. This look-down/shoot-down capability now lets Soviet aircraft detect and attack low flying aircraft, making our forces significantly more vulnerable. These systems also employ improved munitions and are supported by sophisticated electronic combat and C^2 systems.

The Soviets have also deployed a formidable force of modern, tactical, surface-to-air missile systems and antiaircraft artillery, supported by a linked array of mobile and fixed radars. The SA-12, a new system currently being deployed, poses a major threat to tactical forces. This mobile system improves Soviet ground force capability against low-flying US systems. Beyond currently deployed systems are a myriad of follow-on programs designed to greatly improve an already formidable air defense system.

ARMS CONTROL AND TREATY RELATIONSHIPS AFFECTING THEATER FORCES

The Air Force strongly supports negotiations aimed at arms reduction agreements to increase stability and enhance national security. Arms control helps maintain the US deterrent but is not a substitute for military preparedness.

The Intermediate-Range Nuclear Forces (INF) Treaty, which entered into force on June 1, 1988, has important implications for our theater forces. Ground Launched Cruise Missile (GLCM) deployments have stopped, and GLCM units in Europe will phase out by 1991. Removal of these assets increases the importance of our nuclear-capable, tactical aircraft for NATO's deterrent capability. At the same time, the Soviets will gradually eliminate their SS-20 force, removing the threat these missiles pose to NATO air bases and other installations. The drawdown in nuclear missiles underscores the current Soviet advantage in conventional weapons in the European theater.

The Conventional Armed Forces in Europe (CFE) negotiations are focusing on establishing a more stable balance of conventional forces in the European theater. However, reducing forward deployed forces in Europe will necessitate an increased emphasis on our capability to rapidly deploy forces.

Again our emphasis must be on maintaining a quality and ready force able to respond quickly.

AIRCRAFT PROCUREMENT/ MODERNIZATION

Advanced Tactical Fighter (ATF). The ATF is the most important element of our tactical force modernization effort. A follow-on to the F-15C/D, the ATF will be an air-to-air fighter capable of performing counter-air operations essential for gaining air superiority well into the 21st century. ATF incorporates a revolutionary blend of capabilities including low observability, supersonic cruise, highly integrated avionics, maneuver advantage, and lethal, flexible weapons. These capabilities will permit the ATF to operate and survive over enemy territory, achieve first-look, first-kill success against multiple enemy aircraft, and conduct around-the-clock combat operations. In addition, the ATF's improved supportability features will permit the high sortie rates necessary to dominate the air-to-air arena and provide theater commanders the freedom of action necessary to conduct their attack plans.

The current ATF Demonstration/Validation (Dem/Val) phase, aimed at reducing government risk prior to entering full scale development (FSD), will feature the first flight of the Dem/Val prototype aircraft in mid FY 90 and conclude with FSD contractor selection in the fourth quarter of FY 91. Two contractor teams are competing for the ATF contract award: Lockheed, teamed with Boeing and General Dynamics, and Northrop, teamed with McDonnell Douglas. First flight of the FSD aircraft is programmed for the third quarter FY 94 with projected initial operational capability (IOC) in the late 1990s.

Advanced Tactical Aircraft (ATA). The Air Force actively supports the Navy A-12 development program and has programmed funds for the development and production of an Air Force variant to replace the aging F-111 in the deep-interdiction role. By the year 2000, the F-111 will be over 25 years old and will be unable to meet our deep interdiction requirements. The ATA will fill this void. Like the ATF, the ATA will incorporate advanced materials and avionics and possess highly reliable supportability features. The Air Force development program will support a timely procurement decision.

F-15E. We are procuring the sophisticated F-15E Multi-Role Fighter to complement the dual capable, long-range, all-weather capability of our F-111 interdiction force, as well as our numerically inferior air-to-air force. In addition to an expanded air-to-surface weapons capability (including Low Altitude Navigation and Targeting Infrared for Night [LANTIRN]), the F-15E retains its inherent air-to-air capabilities. The FY 91 budget funds procurement of 36 aircraft, the minimum economic production rate, ending procurement at a 200 aircraft buy. In light of force structure reductions, the Air Force is reevaluating the appropriate mix of F-15E and F-16 aircraft that maintains a balance between force modernization

and force composition capable of meeting mission requirements.

CAS/BAI. Our current dedicated close air support/battlefield air interdiction (CAS/BAI) aircraft, the A-7D and A-10A, are unable to meet the Joint Force Commander's requirements for the mid-1990s and beyond. Increasingly lethal threat environments make it extremely difficult for the A-7D and A-10A aircraft to adequately accomplish their missions. Therefore, we have funded interim programs to modify 225 A-10As and 146 Block 30 F-16s with improvements that enhance their CAS/BAI capability. Night attack suites for these aircraft are also under evaluation. However, these are all interim solutions until a follow-on CAS aircraft is selected and fielded. Future CAS aircraft selection will come from on-going efforts within the Department of Defense. The alternatives currently under consideration focus on modifying existing and/or production aircraft.

F-15. The F-15 has been operational for 14 years. A series of upgrades has enabled this aircraft to maintain its standing as the finest air-to-air fighter in the world. Further avionics improvements will extend its capability to counter the threats of the 1990s. Integration of the AIM-120A Advanced Medium Range Air-to-Air Missile (AMRAAM) will enable it to simultaneously engage multiple targets, further enhancing its combat effectiveness and survivability in the air superiority mode.

F-16. The FY 91 multi-role F-16C/D procurement will consist of 150 aircraft with numerous improvements over the original F-16A/B. Some of these improvements include AMRAAM missile capability, improved radar, increased performance engines (IPE), advanced radar warning (ALR 56M), precise navigation (Global Positioning System) and advanced electronic warfare weapons (HARM/Shrike). The improvements will enable employment of advanced subsystems and ordnance, augmenting the already significant capabilities of the F-16.

FY 91 is the second year of a conditional Multi-Year Procurement (MYP) program (FY 90-93), approved by Congress in the FY 89 Authorization Act. The estimated savings for this third MYP are $416.6 million, or 9.6 percent, compared to a series of annual contracts. The first two MYPs saved $350.0 million (FY 82-85) and $467.0 million (FY 86-89), respectively.

F-117A. The F-117A stealth fighter aircraft first flew in June 1981 and attained operational status 2 years later in October 1983. The aircraft is assigned to the 37th Tactical Fighter Wing based at Tonopah Test Range Airfield. Fifty-six aircraft have been delivered to the Air Force and three more are in production.

With the disclosure of the F-117A program, this mature system, which has enjoyed bipartisan Congressional support since its inception, is being integrated into operational plans in support of worldwide defense commitments. The F-117A's inherent flexibility across the entire spectrum of armed conflict, evidenced by its successful integration in Operation Just Cause (Panama),

make it an integral part of our deterrent force structure.

TACTICAL RECONNAISSANCE AND ENGAGEMENT SYSTEMS

Tactical Reconnaissance and Engagement Systems are a group of related programs designed to provide a comprehensive picture of the battlefield and allow theater commanders to engage targets in near real time. These complementary programs provide standoff and penetrating capability. Standoff programs include the Advanced Synthetic Aperture Radar System (ASARS II) to detect fixed targets and the Joint Surveillance Target Attack Radar System (JSTARS) to detect moving targets. Standoff reconnaissance alone will not meet the needs of the theater commander for accurate, up-to-date information. The Follow-On Tactical Reconnaissance System (FOTRS) will help satisfy this information requirement by providing an electro-optical sensor suite configured for carriage on both manned and unmanned penetrating aircraft.

ASARS II. ASARS II provides tactical reconnaissance for US forces and NATO with very high resolution imagery of fixed targets. Without ASARS II, we lose our all-weather, high resolution, fixed-target imagery capability. The TR-1 is the airborne platform for the Tactical Reconnaissance System (TRS). In the TRS configuration, the TR-1 carries the ASARS II imaging radar and other sensors to provide theater commanders with near real-time intelligence. Information is transmitted via digital data link to a hardened underground bunker that processes and sends reports to users in fewer than 15 minutes. The communications capability being built into the TRS will provide time-critical targeting information to the theater commanders allowing them to commit their assets against high-priority targets. In FY 91, we are requesting funding for continued TRS development, procurement, and initial spares to achieve an IOC in the early 1990s.

JSTARS. JSTARS is an Air Force/Army program to field a common radar and attack control system for worldwide combat operations. The JSTARS E-8A platform carries a multi-mode radar, processing equipment, controller stations, and C^2 interfaces. JSTARS will detect mobile enemy ground forces and provide targeting information to C^2 centers. Commanders can use this real-time information to direct attacks against key target areas, controlling the tempo of the battle. Funding in the FY 91 Budget will continue the development effort.

FOTRS. The FOTRS program is an umbrella concept consisting of two program elements and two associated projects for upgrading Air Force, Navy, and Marine tactical reconnaissance penetrating systems. One project, the Advanced Tactical Air Reconnaissance System (ATARS), includes sensor suite development consisting of Electro-Optical and infrared sensors, recorders, data link, and reconnaissance management systems. ATARS also integrates these

sensor suites into selected Air Force, Navy, and Marine Corps aircraft and the medium-range unmanned aerial vehicle. The second project, the Joint Service Imagery Processing System (JSIPS), focuses on the development of a common and modular ground station to support Service requirements. An ATARS critical design review will be completed in January 1990, with the ATARS sensor production decision and a combined ATARS/JSIPS initial operational testing and evaluation and JSIPS production decision planned for 1991. These decisions are progressing to meet a mid-to-late 1990s IOC.

ELECTRONIC COMBAT

Today's sophisticated threat systems pose significant problems for our tactical forces. Electronic combat assets leverage our investment in combat aircraft by significantly improving the effectiveness of our forces, while simultaneously disrupting and destroying the enemy's force effectiveness. The Air Force Electronic Combat (EC) strategy continues to use a complementary mix of effective, affordable assets, providing the capability to detect a wide variety of threats and tailor the response. Today's major EC efforts are focused on developing integrated, reprogrammable systems emphasizing joint Service application.

The Air Force is requesting development and procurement funds in FY 91 to build and sustain a complementary mix of destructive, disruptive, and self-protective EC systems. The Air Force requests funding in the FY 91 Budget for continued development and procurement of the following systems:

Anti-Radiation Missiles. HARM (AGM-88) and Tacit Rainbow (AGM-136A) form the heart of our destructive EC capability. HARM, employed by the F-4G, provides a surgical, immediate strike capability against specific air defense threats. HARM can also be employed by select F-16s. Tacit Rainbow will initially be employed from standoff ranges by conventional-role B-52s to provide wide area coverage of threats to support the ingress and egress of strike aircraft. Furthermore, Air Force studies show that HARM and Tacit Rainbow interact synergistically, increasing overall effectiveness.

Advanced Radar Warning Receiver Program. In December 1988, the Air Force chose the ALR 56M over the ALR 74 as the Advanced Radar Warning Receiver for F-16/RF-4C aircraft applications. The ALR 56M, a derivative of the ALR 56C currently installed on the F-15C/D, will provide warning against new and projected Soviet threat systems. It also has potential for installation on the AC-130U, B-1B, MC-130, C-17, and JSTARS.

Integrated Electronic Warfare System (INEWS). INEWS is an Air Force-led, joint Air Force/Navy program to develop the self-protection suite of the 1990s and beyond for the ATF, ATA, and other advanced technology aircraft. The need for a sophisticated self-protection suite is driven by the technologically advanced threat environment in which these aircraft will operate.

INEWS will provide aircrews with timely and accurate threat warning and will automatically apply optimum countermeasures. The self-protection threat response must be tailored to the specific mission requirement and threat environment. Effective implementation of INEWS demands a defensive capability fully integrated with other aircraft sensors and avionics to achieve total weapon system synergism. The INEWS will use common hardware and software modules to allow tailoring to mission requirements. We are requesting development funds in FY 91 for continued work on this vital technology.

AN/ALQ-165 Airborne Self-Protection Jammer (ASPJ). The Air Force role in the ASPJ program is terminated.

AIR-TO-AIR WEAPONS

The Soviets are enhancing their already substantial forces with the highly maneuverable and technologically sophisticated MiG-29 and Su-27 fighters. Given this threat, our fighters must employ more effective air-to-air weapons to gain and maintain air superiority.

AIM-7 and AIM-9. Today, the Air Force and Navy weapons for medium- and short-range air-to-air combat are the Sparrow (AIM-7) and the Sidewinder (AIM-9), respectively. The final procurement for both missiles took place in FY 89. The AIM-7M and AIM-9M are the most recent versions of these missiles. The semiactive, radar-guided AIM-7M is designed to operate in all types of weather and against various electronic countermeasures. The AIM-9M, an infrared guided missile, can acquire and track targets in a high infrared-cluttered environment. Through the Air Force's self-defense aircraft modification program, AIM-9L/Ms will be carried on the F-4, F-111, A-7, and A-10.

AIM-120A AMRAAM. To retain the superior characteristics of the US fighter force, we require a new family of air-to-air missiles to provide improved flexibility, range, and lethality. This requirement includes the capability to launch at a target and maneuver to evade or engage another target while the launched missile completes its attack, independent of launch aircraft radar and avionics on board the aircraft. The AMRAAM will have this capability and is our number one tactical weapon priority. AMRAAM will be used by the Air Force, Navy, and our NATO allies. Compared to the current Sparrow, AMRAAM is a major advance in radar missile capability. The Sparrow is a semiactive radar missile that must be guided continuously by the launching aircraft to a single target. Consequently, an aircrew is particularly vulnerable during a long-range attack when his aircraft radar must be fixed on the target for an extended time. The AMRAAM, however, has an active radar seeker, allowing the aircrew to maneuver once the AMRAAM has acquired the target, thereby reducing risk from enemy fire.

AMRAAM Development, Test and Evaluation/Initial Operational Test and Evaluation on the F-14, F-15, F-16, and F-18 aircraft continued in FY 88 and early FY 89 with a cumulative success rate better than

ever attained by a complex air-to-air missile. Flight testing is now focusing on F-15 radar software and captive carry capability and will continue through mid FY 90. This will ensure maximum information is available for the May 1990 Defense Acquisition Board (full-rate production decision).

AIR-TO-SURFACE WEAPONS

The Air Force requires a mix of quality air-to-surface munitions to achieve our combat objectives under day, night, and adverse weather conditions. To this end, we are updating the OSD Standoff Weapons Master Plan this year and will incorporate inputs from the Unified Commanders in Chief on the survivability of forces, requirements for standoff munitions for these forces, and adequacy of existing stocks of standoff munitions. This plan will guide the Air Force's acquisition of weapons that permit the use of standoff tactics to strike heavily defended critical targets. As enemy defenses are drawn down, we can transition to direct-attack tactics. We must procure and stockpile sufficient quantities of air-to-surface weapons to sustain our forces in case of supply disruption or until the industrial base can match consumption. Congressional and OSD support of the Air Force's air-to-surface munitions requirements in the OSD Standoff Weapons Master Plan is required to move us toward this goal.

Dispenser Munitions. The Air Force is developing and acquiring a series of new dispenser munitions; the Combined Effects Munition (CEM) is in production, while the Direct Airfield Attack Combined Munition (DAACM) and the Sensor Fuzed Weapon (SFW) are under development. Each of these systems consists of submunitions dispensed from the Tactical Munitions Dispenser (TMD).

CEM consists of the TMD packaged with 202 unguided bomblets. It is a direct-overflight area weapon designed to attack light-to-medium armor, vehicles, and personnel. The bomblet contains a shaped charge for armor, blast fragmentation for softer targets and personnel, and an incendiary capability. The Air Force eliminated FY 91 funding. A plant explosion delayed completion of previous year contracts, making FY 91 funding unnecessary.

DAACM began development in FY 86 and consists of the TMD packaged with 8 Bomb Kinetic Energy Penetrators for effective runway cratering and 24 British-developed, HB-876 area denial mines to impede runway repair operations. The weapon will provide direct-attack capability against runways and is planned as a follow-on to the French-built Durandal airfield attack munition. DAACM FSD has been deferred pending testing of alternate airfield attack weapons against improved enemy airfield construction techniques. The test results will dictate whether the Air Force continues to pursue DAACM or selects another munition to fill the airfield attack requirement.

The SFW fills an Air Force requirement for a multiple-kills-per-pass wide area weapon that can defeat armor such as tanks. SFW is also effective against light armored

vehicles, trucks, and air defense units. SFW FSD continues through FY 91 with production scheduled to begin in FY 92. The combination of 40 Skeet warheads carried by 10 submunitions in a TMD forms the SFW.

AGM-65D&G Imaging Infrared (IIR) Maverick. DOD has terminated the Air Force's FY 91 Maverick procurement for fiscal reasons based on total inventories of level-of-effort weapons. Total Maverick procurement (prior year funding) will be approximately 19,733.

TACTICAL COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C^3I)

C^2I is vital to our commanders' success on the battlefield. Recent actual combat experience as well as field training exercises show that jam-resistant, air-to-air and air-to-surface ultra-high-frequency (UHF) and very-high-frequency (VHF) voice communications are essential for effective C^2.

HAVE SYNC. The Air Force HAVE SYNC contract for an airborne SINCGARS capability was terminated for default in October 1989 due to contractor non-performance. Currently, DOD is considering alternatives for fulfilling the HAVE SYNC airborne requirement. As a result, DOD eliminated the FY 91 funding for the HAVE SYNC (Air Force Airborne SINCGARS) radio development and production. However, in FY 91 the Air Force will begin purchasing Army ground SINCGARS radios for ground forward air controllers and combat control teams.

Modular Control Equipment (MCE). The MCE program will replace the aging and unsupportable 407L C^2 equipment developed in the 1960s. MCE provides C^2 vans at control and reporting centers (CRC) and forward air control posts (FACP) assigned to the Active and Air National Guard Tactical Air Control System (TACS). It will provide state-of-the-art computer processing and display equipment capable of rapid air and ground deployment to support worldwide tactical air operations.

Joint Tactical Communications Program (TRI-TAC). The Air Force TRI-TAC program will replace aging and unsupportable 407L communications equipment with digital, high capacity, secure systems. TRI-TAC provides modular transmission, switching, subscriber, and technical control equipment supporting the TACS, deployed air bases, and contingency operations. TRI-TAC services include tactical telephones and message and data communications systems interconnected with other tactical and strategic communications systems. Fielding will continue until the mid-1990s.

Intelligence. Two key intelligence initiatives, SENTINEL BYTE and the Joint Tactical Fusion Program, provide aircrews and operational commanders perishable intelligence information using current data processing technology. SENTINEL BYTE incorporates microcomputers into Tactical Fighter Wing operations and will feed

intelligence directly into automated mission planning systems. SENTINEL BYTE is operational at 16 bases. The Joint Tactical Fusion Program will provide commanders with a picture that correlates all available intelligence information. It responds to Congressional direction for a joint Army and Air Force effort to develop a common view of the battlefield.

CHEMICAL WARFARE

The Air Force requirement for Chemical Warfare Defense (CWD) is based on the vulnerability of our forces to chemical attack from an increasing number of nations. The Air Force recognizes that a multi-national Chemical Warfare (CW) treaty will take years to implement, compliance will be difficult to verify, and not all CW capable nations are likely to sign. In FY 77, we began large-scale procurement of CWD equipment and recurring training to provide a capability to survive and fight during a chemical attack.

We need Congressional support to maintain our deterrent posture and improve our ability to survive and operate in a CW environment. The use of chemical weapons in the Iran/Iraq war has shown the international taboo against the use of such weapons is no longer completely effective. Reported chemical weapons development in Third World countries further destabilizes attempts to strengthen a ban on chemical weapons use. Ongoing treaty talks are complicated by the efforts of Third World countries to link CW disarmament to regional nuclear disarmament.

The Air Force must plan to defend against the effects of CW and also be able to retaliate in kind. Current defensive protective gear provides adequate personal protection against known chemical agents, but causes severe problems such as induced heat stress, restricted movement and vision, and degraded communications. Some tasks, already difficult under combat conditions, become almost impossible, and many simple tasks take longer, resulting in fewer aircraft sorties. Sustained operations are further limited by the lack of chemically protected facilities where personnel can rest, eat, and sleep without wearing protective gear. The FY 91 CWD Program funding request continues the development and procurement of critically needed equipment and systems.

BIGEYE. The Air Force does not possess a credible deterrent chemical weapon. While we do not condone the proliferation or use of chemical weapons, it is imperative that we upgrade our outdated and cumbersome unitary weapon stockpile. Our lack of an effective deterrent provides potential adversaries with a powerful incentive to use chemical weapons. The BIGEYE binary munition gives the United States the persistent chemical agent, deep-attack capability we now lack. This effective retaliatory capability, coupled with improved defensive capability, is essential to maintain a credible deterrent.

AIRLIFT AND AERIAL REFUELING FORCES

AIRLIFT

Strategic airlift forces provide the US with the capability to project power quickly and decisively throughout the world. Their ability to carry troops and/or cargo, air refuel, and airland or airdrop their loads reduces dependence on forward-basing, while retaining the ability to meet almost any military or civil requirement. Clearly strategic airlift is a national asset whether employed in support of military operations such as Just Cause in Panama, or as part of humanitarian efforts providing relief following natural disasters such as Hurricane Hugo.

Effective force projection lies in achieving a balance between airlift, sealift, and prepositioning. Although sealift has the potential to transport large quantities of forces over long distances, airlift retains strategic advantages of surprise, timing, and flexibility. The October 1973 Arab-Israeli War highlighted some of these advantages, when only airlift was able to deliver critical equipment and supplies before the end of hostilities. More recently, the airlifting of US troops into Panama provided an element of surprise, reducing enemy resistance. Although additional sealift and prepositioning can reduce the total mobility requirement shortfall, they cannot replace airlift's inherent flexibility and responsiveness.

On-going improvements in US and allied intelligence, warning, and communications systems may increase strategic warning time of an impending crisis. On the other hand, factors such as a delayed decision to commit forces or increased mobilization time could dilute the advantage of additional strategic warning. Thus, despite advances in warning technology, the fog of war could compress our reaction time; yet some crises still require rapid application of force if the US is to prevail and achieve its desired objectives.

At present, it is too early to calculate what impact potential future force reductions and a reduced forward presence could have on airlift requirements. Even with reduced forces, improved sealift, more prepositioned equipment, and increased warning time, the airlift requirement for global war will still be significant.

AIRLIFT ENHANCEMENTS

C-17. The C-17 is vital to modernizing the nation's airlift capability. The C-17 will assume the responsibility as our primary strategic airlift aircraft when fully operational, a role currently filled by the aging C-141. The air-refuelable C-17 will be capable of alternating from its key strategic role to a theater role to assist the C-130 in deploying, employing, and resupplying forces -- and will be able to deliver directly to

forward areas. It will have outsized cargo capability, enhanced ground maneuverability, short runway and airdrop (including outsized cargo) capabilities, increased availability and reliability, and the flexibility to carry out a wide variety of missions. The 1983 Airlift Master Plan envisioned the retirement of a portion of the C-141 fleet as C-17s were delivered. The Total Force Plan the following year called for modernization of the Air Reserve Component (ARC) with C-5s, C-141s, and C-17s. This reduced operations tempo would have permitted C-141 operations into the 21st century. However, increasing demands on the C-141 fleet and delays in fielding the C-17 have accelerated C-141 aging. If the C-17 program is stretched further or canceled, the C-141 fleet will need a major overhaul, including a Service Life Extension Program (SLEP). Even then, without the C-17 there is no available replacement aircraft in sight. As such, the C-17 program must proceed fully supported and fully funded.

The C-17 is the first transport aircraft to be designed around mission requirements and inputs from the using Services and theater commanders. The first two C-17 aircraft were appropriated in 1988, with four more in 1989, and four additional aircraft in 1990. In total, the Active, Guard, and Reserve forces will receive 210 aircraft. The first squadron is scheduled to achieve initial operational capability in FY 93 at Charleston AFB, South Carolina.

C-17 full-scale development (Milestone II) was approved in February 1985. Preliminary design reviews were completed in late 1985, and airframe/air vehicle critical design reviews began in 1988. The program was approved for low-rate initial production (Milestone IIIA) in December 1988. Flight testing is scheduled to begin in FY 91.

The Secretary of the Air Force designated the C-17 a Defense Enterprise Program. Under this Congressionally directed concept, C-17 program management can be streamlined by receiving funding and scheduling stability. The Defense Enterprise Program will enable the Air Force to consider multi-year funding for the C-17 during the full-scale production decision (Milestone IIIB) process.

The Air Force has initiated several efforts to avoid cost growth as stated in the December 1988 Selected Acquisition Report. These include Total Quality Management (TQM) efforts and incremental cost estimate reviews. TQM is an on-going effort to strive for the highest quality at the lowest possible cost. It involves not only an Air Force commitment, but TQM efforts by Douglas Aircraft Company (DAC) as well. The first incremental Should Cost review team effort began on March 15, 1989, with receipt of the FY 90 production Lot III proposal from DAC. This effort will culminate with contract award at T-1 assembly completion (event-based contract award). These actions combined with other on-going cost reduction efforts could result in cost savings on the order of $1.0 billion.

The procurement contract contains an extremely strong and unique warranty program including 45,000 hours on the structure, 5 years

on electrical subsystems, 10 years (or 20,000 landings) on the landing gear, and 5 years on the engines. Additionally, all essential performance parameters are guaranteed, e.g., range, speed, payload, and takeoff and landing distances. Although operating weight is not a specific requirement under the C-17 contract, the contractor has an active weight reduction program which has identified and incorporated over 20,000 pounds of weight savings and continues to incorporate additional weight reductions. The contractor has the final responsibility to design the aircraft to meet performance criteria which will be measured during the flight test phase.

The C-17 program has experienced schedule slips due to delays in software system development of the mission computer (MC) and electronic flight control system (EFCS). Consequently, the first flight of T-1 (test aircraft) has been delayed from FY 90/4 to FY 91/3. General Electric, a new subcontractor, has taken over the EFCS contract and will support the new schedule for first flight. DAC has taken over software system management for the MC and will also support the revised first flight schedule.

C-17 Defensive Systems. The defensive systems program responds to the need for an integrated, common architecture defensive suite that provides protection for airlift aircraft. The proliferation of shoulder-fired surface-to-air missiles among terrorist forces places airlift aircraft in jeopardy even in a peacetime environment. During wartime, we would expect to operate in a more threatening environment.

The C-17 plans for incorporating defensive systems are based on the Program Management Directive requirement for a fiscally limited 106 aircraft minimum with possible options for up to 210 aircraft. Research and development began in FY 89 and current estimates indicate a possible authority to proceed date of June 1991 for the start of the engineering development effort for installation of defensive systems. Possible change to the production line should occur no later than the 105th production aircraft (FY 95).

C-27A. The Short Takeoff and Landing (STOL) Intratheater Transport Aircraft program is an Air Force initiative to respond to a stated requirement for United States Southern Command (USSOUTHCOM). The aircraft will deliver troops and cargo rapidly to forward areas where only short runways or dirt strips are available. This military aircraft will be rugged, simple, maneuverable, smaller than the C-130, and possess the versatility of a light, utility transport with STOL capabilities.

Congress funded the first five aircraft in FY 90. The last five aircraft are contained in the FY 91 President's Budget. In the interim, the Air Force has partially met USSOUTHCOM's needs through contract airlift started in June 1989. Contract support will terminate at C-27 Initial Operational Capability in FY 91/4.

Civil Reserve Air Fleet (CRAF). The CRAF is a group of US civil aircraft committed to augment the Military Airlift Command (MAC) in wartime. Those air carriers participating in the CRAF are contractually obligated to provide aircraft, crews, support personnel, and facilities to MAC under specific emergency conditions. The CRAF has been a key partner in the nation's defense since its inception in 1952.

The CRAF Enhancement Program encourages airlines to add cargo-convertibility features to their wide-body passenger aircraft for use as cargo carriers during mobilization. Completed in January 1990, the CRAF Enhancement Program modified a total of 23 commercial aircraft. This capability, when added to the current CRAF cargo aircraft, provides nearly 25 percent of the wartime airlift of equipment and supplies. The National Defense Authorization Act for FY 90-91 provides new legislation which enables the Air Force to enter into additional CRAF modification contracts. This improves on Public Law 97-86, which was not broad enough to allow us to respond to the evolving needs of the airline industry. The new law provides greater flexibility in working with the civil air carriers to acquire and modify aircraft with military cargo features.

This effort to include defensive features on the nation's commercial airlift fleet is in keeping with the recently revised National Airlift Policy. This policy prescribes a balanced approach to force projection, including a strong civil reserve air fleet. In support of this policy, the Air Force also intends to pursue multi-year contracting with air carriers for peacetime movement of military cargo and passengers as an incentive for the airlines to commit additional aircraft to the mobilization base. Contracts in past years have been on an annual basis.

The current wartime concept of aeromedical evacuation which relies on C-141 retrograde missions does not provide sufficient capability to meet requirements. Therefore, a method was developed using civil transport aircraft, route structures, and specialized crew training requirements. This calls for dedicated Boeing 767 aircraft to provide intertheater aeromedical evacuation and Douglas MD-80 aircraft for CONUS patient distribution. This increased CRAF aeromedical capability will provide needed support to meet wartime aeromedical requirements. Funding for the aeromedical conversion kits was begun in FY 88. Initial operational capability is scheduled for FY 91/4 and full operational capability is expected in FY 92/1.

MAC Command and Control (C^2) Support. The global nature of the airlift mission requires effective C^2. The majority of the individual C^2 upgrades will be fielded by FY 94. These upgrades include high-frequency anti-jam radio sets, ultra-high-frequency (UHF) satellite communications (SATCOM) capability, improved communications security, and information processing equipment. In addition to this equipment, MAC is also paying close attention to the personnel, procedures, and facilities required to form an integrated C^2 system.

AERIAL REFUELING

Air refueling increases the nation's flexibility to respond in a timely manner across the spectrum of conflict. The capability to refuel our combat and combat support aircraft during flight enhances the flexibility of air power by increasing the range of our forces and extending our presence in combat areas. This enables the US to reduce its reliance on forward basing and to bypass areas where overflight rights are denied. This flexibility increases combat effectiveness and reduces our vulnerability to attack.

The Air Force needs substantially greater aerial refueling capability to support our Single Integrated Operational Plan (SIOP) and contingency plans than is available from the present fleet of KC-135 and KC-10 tanker aircraft. All KC-135s are required to support forces committed to the general nuclear war plan, while KC-10 aircraft support deployment and employment of general purpose forces. However, since this requirement far exceeds the capability of the KC-10, a large number of KC-135s are assigned both SIOP and conventional war missions. This creates difficult allocation choices when conventional operations are accompanied by an increased SIOP readiness posture.

Tanker Enhancements. The basic KC-135 airframe will last into the 21st century. The KC-135R modernization program includes more than 25 system improvements to match the airframe's long life and increase its offload capability up to 50 percent over that of the KC-135A. The KC-135R increases reliability, improves maintainability, reduces operation and support costs, and meets federal noise-pollution standards. This Air Force program will eventually retrofit the entire fleet of 634 aircraft.

The Air Force believes the KC-135R Modernization Program is the most cost-effective option to reduce the air-refueling shortfall and to enable the KC-135 fleet to operate safely well into the next century. Recently, due to fiscal constraints, we reduced funding and kit procurement to levels lower than desired. The program meets all criteria for multi-year procurement except in the area of stability of funding, since annual reductions caused perturbations and program stretch-out.

The Guard and Reserve KC-135E modification, with the JT3D engine, provides safer inflight operations and a 20-percent increase in offload capability over the KC-135A. The upgraded anti-skid system and the engine thrust reversers provide increased flexibility for employment worldwide. These aircraft will be supportable until the mid-1990s and then begin conversion to KC-135Rs through the modernization program.

The KC-10, acquired and employed to improve mobility response, provides additional refueling support for conventional force deployments. In a tanker-only versus a combined tanker-airlift role, the KC-10 averages three times the offload capability of a KC-135A. In addition, since the KC-10 is refuelable in flight, its cargo-tanker capabilities allow non-stop deployment of tactical

fighter aircraft and their support equipment simultaneously.

To meet Navy deployment and reinforcement requirements for a land-based, long-range tanker aircraft, the Air Force initiated a program to modify KC-10A aircraft with wing tip, multi-point air refueling systems. This program is designed to improve interoperability with probe-equipped aircraft under the Air Force's charter as single tanker manager. This modification to the KC-10A tanker force will enhance the employment operations of probe-equipped receiver aircraft.

SPACE

The National Space Policy outlines long-range space objectives for the national security sector. DOD will develop, operate, and maintain forces designed to provide an assured mission capability through a mix of robust satellite control, assured access to space, on-orbit sparing, proliferation, reconstitution, or other means. In an uncertain future, successful operations in space will contribute to our readiness and will have an important influence on terrestrial conflict. Therefore, future Air Force doctrine will continue to integrate spacepower into the basic roles and missions of the Air Force.

The functions of space support, force enhancement, space control, and force application are the critical elements of Air Force Space Policy. Space support activities involve operations associated with launching and deploying space vehicles, maintaining and sustaining space vehicles while on orbit, and recovering space vehicles, if required. Force enhancement provides space systems that increase our forces' effectiveness to meet the operational requirements of land, sea, and air forces through all levels of conflict commensurate with their intended use. Space control requires an integrated combination of anti-satellite, battle management/command, control, and communications (C^3), survivability, and surveillance capabilities to ensure freedom of action in space for friendly forces and, when directed, to deny it to the enemy. Finally, force application requires the Air Force to conduct research, development, and planning to be prepared to acquire and deploy battle management/C^3 space systems and weapons for strategic defense or other required missions. To do these functions, the Air Force must achieve assured mission capability--the ability to conduct continuous space operations.

NATIONAL SPACE POLICY

The National Space Policy requires capabilities in key areas of space activity critical to maintaining our national security. The policy does not, however, require the United States to be preeminent in all space activities. We do not want to duplicate Soviet programs. We have determined our own requirements and established our own programs to meet the requirements of our military forces to deter conflict, or if that fails, to wage war and terminate it on terms favorable to the United States.

US military space capabilities contribute to our deterrence strategy in a variety of ways. Satellite early warning capabilities warn of Soviet space and missile launches, prevent surprise attack, and allow the United States to determine the appropriate response to Soviet actions. Space surveillance systems track, categorize, and assess the capabilities of all space objects. Space-based communication systems, such as Air Force Satellite Communications (AFSATCOM), the Defense Satellite Communications System (DSCS), and in the future, Milstar, ensure effective, rapid communications with US strategic and tactical forces throughout the world. Other capabilities like the Global

Positioning System (GPS) and Defense Meteorological Satellite Program (DMSP) enhance the effectiveness of our forces by providing navigation and environmental monitoring information, respectively.

Space systems also contribute to arms control by providing monitoring capabilities that enable us to confidently enter into verifiable agreements.

SPACE SUPPORT

Space support activities involve launching, deploying, maintaining and controlling while in orbit, and if required, recovering space vehicles. Over the years, the Air Force has made a significant investment in space launch and support infrastructure and personnel. We continue to maintain this highly specialized expertise required for space operations.

The issue is not one of launch capability but of on-orbit capability. The US satellite payload schedule was delayed due to the Shuttle and Titan accidents. This on-orbit capability in space is essential to our national security. The Air Force scheduled recovery launch rate peaks at approximately 25 in 1990, but we will not be able to launch all of the backlog of satellites until 1992. DOD payloads are now distributed among six launch vehicles ranging from shuttle and Titan IV at the heavy lift end of the spectrum to Titan II and Scout at the lighter lift end.

Expendable Space Boosters. In September 1988, the Titan II returned to the Air Force active inventory. Formerly, it supported our national defense strategy as a part of our strategic missile force. We have converted the Titan II to support space missions launched from Vandenberg AFB, California.

The first Titan IV was launched on June 14, 1989. The Titan IV succeeded the Titan 34D as our heaviest unmanned launch vehicle. The increase in Titan IV procurement to 41 vehicles will offset some of the reduced Shuttle availability and performance over the next 3 years as well as the reduced maximum flight rate of 12 flights per year.

In early 1989, the Delta II began launching Navstar GPS satellites previously scheduled for the shuttle. Delta II will deploy the GPS constellation at an initial rate of five launches per year to achieve the operational capability.

A new version of the proven Atlas Centaur launch vehicle, the Atlas II, was selected to launch DSCS satellites. The military, NASA, and the commercial launch industry gained significant benefits from the approaches used in this booster acquisition.

Additional Launch Pads. Other vital aspects of the space launch recovery plan include additional pads and pad capacity on both coasts. Launch Complex-40 at Cape Canaveral will be converted to a dual capable launch pad that will support DOD Titan IV operations and be available for commercial Titan III launches as well. A second Titan IV pad at Vandenberg with Centaur upper stage capability will also be necessary to meet increased launch requirements

starting in 1996, and the Air Force is moving forward with a plan to provide it. Also, additional production capacity for Titan IV payload fairings and solid rocket motors is necessary to meet the increased launch rates beginning in the early 1990s. Launch pads and production augmentation will increase Titan IV launch capacity to 10 missions per year and permit support of some NASA-funded planetary and national science mission requirements, along with DOD needs.

The Air Force has transferred Vandenberg shuttle equipment to alternate users where possible and has mothballed SLC-6. A mothballed SLC-6 results in a savings and will be maintained for potential launches of Advanced Launch System, NASA shuttle, or Titan IV missions.

Advanced Launch System (ALS). Another example of the mutual dependence and balance created by the National Space Policy is the ALS. The space boosters presently being brought into the inventory will meet our current performance requirements, but we still require improvements to meet future needs. Areas that will lead to better launch support to meet US security requirements are: increased capacity, increased reliability, responsiveness to provide faster launch call up, flexibility in satellite assignments and integration, resilience to accidents and other threats, and lower launch costs.

ALS, a joint DOD/NASA program, had been identified as our future national space launch capability. Recent fiscal restructuring during the FY 91 President's Budget required the Air Force to defer the initiation of full-scale development (FSD) of an ALS vehicle. However, the three main objectives outlined for the ALS program remain intact. First, ALS must develop technologies, system designs, and operational concepts for the next generation of responsive launch vehicles. Second, the ALS program will develop near-term technology spin-offs to improve our existing launch systems. Expendable launch vehicle and shuttle reliability and performance should benefit from applicable ALS technology achievements. Third, it will provide the basis for a future generation of launch vehicles for defense needs.

National Aero-Space Plane (NASP). The NASP Program is a joint DOD/NASA undertaking to develop and demonstrate potential technologies applicable to a new generation of flight vehicles. The Air Force has program management responsibilities for the NASP. The ultimate goal of the program is to develop and demonstrate the capability of single-stage-to-orbit with horizontal takeoff and landing and long-range hypersonic cruise. This revolutionary, highly advanced technology will be developed first in ground-based facilities, then integrated into the design and fabrication of an experimental aircraft for flight development and technology demonstration.

Significant achievements have been made in the development of metallic and metal-matrix materials, active cooling devices, aerothermodynamic computational methods, ramjet/scramjet engines, and airframe designs.

The July 20, 1989, Presidential decision on the NASP resulted from a thorough review by the National Space Council. The President approved the following policy with regard to the NASP program:

> The United States will continue the NASP program as a high priority national effort to develop and demonstrate hypersonic technologies with the ultimate goal of single-stage-to-orbit. The government will complete the Phase II technology development program and plan to develop an experimental flight vehicle after completion of Phase II, if technically feasible. Performance of the experimental flight vehicle will be constrained to the minimum necessary to meet the highest priority research, as opposed to operational, objectives. Unmanned as well as manned designs will be considered and the program will be conducted in such a way as to minimize technical and cost uncertainty associated with the experimental vehicle.

FORCE ENHANCEMENT

The Air Force procures and operates space-based systems for navigation, meteorology, communications, and tactical warning/attack assessment (TW/AA). The Air Force also participates with the other Services in conducting space surveillance and providing mission-oriented, space-based communications. We have responsibility for the acquisition and operation of multi-user systems such as GPS, Defense Meteorological Satellite Program (DMSP), and Milstar.

Navstar GPS. The Navstar GPS, a space-based navigation system, provides military users with precise time and worldwide, all-weather, three-dimensional position and velocity information. GPS will provide all US forces a common navigation grid for combined operations, improve the probability of target acquisition, enable precise low-level ingress/egress, allow flexible routing, and increase weapons delivery accuracy for enhanced effectiveness and survivability of many US weapon systems. A complementary mode will also be provided for worldwide civil use. The firm, fixed-price, multi-year contract for 28 GPS satellites is on schedule. Launches on the Delta II began in 1989, and will lead to a planned 24-hour-per-day worldwide GPS capability in 1993.

DMSP. The Air Force is executive agent for DMSP. This joint-use program is the DOD's most important source of global weather data. DMSP collects and disseminates global visible and infrared cloud data and other meteorological, oceanographic, and solar-geophysical data. Timely data are supplied to Air Force Global Weather Central, the Navy Fleet Numerical Oceanography Center, and deployed tactical receiving terminals worldwide. The Block 5D-2 satellites are launched on Atlas Es and will be launched by Titan IIs in the early 1990s. DMSP Block 5D-2 satellites were purchased through multi-year procurement (MYP) contracts, resulting in savings of $72.0 million or 18.9 percent over an annual

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buy. A similar MYP contract for five Block 5D-3 satellites will also save $72.0 million over an annual buy.

Command, Control, and Communications (C^3). Deterrence of nuclear conflict requires that a potential aggressor perceives that any attack will result in effective retaliation. Communications among our tactical warning sensors, command authorities, and nuclear forces are necessary for executing a retaliatory strike, and are therefore an essential element in strategic deterrence.

In the event deterrence fails, survivable C^3 is necessary to verify the attack, estimate its size, and determine its intent. The Air Force Satellite Communications (AFSATCOM) System currently provides command and control of our strategic forces. The AFSATCOM Single Integrated Operational Plan (SIOP) role will be replaced by Milstar and DSCS in the mid to late 1990s.

The Air Force Milstar program provides improved, survivable, and jam-resistant communications in the extremely-high-frequency (EHF) range. This joint-Service effort, is developing and acquiring satellites, mission control equipment, and terminals for aircraft and ground command centers.

The DSCS provides super-high-frequency (SHF) satellite communications for secure voice, high volume, and high data rate transmissions. DSCS provides communications for critical national security requirements, i.e., worldwide military C^3, crisis management, presidential, and intelligence and diplomatic traffic.

DSCS III, the latest DSCS satellite design, provides added flexibility through electromagnetic pulse hardening and increased jam-resistance. DSCS III supports strategic forces by providing an ultra-high-frequency (UHF)/SHF capability for emergency action message dissemination and force execution through an AFSATCOM Single Channel Transponder. The fixed-price, multi-year contract awarded in 1985 for seven DSCS III satellites is on schedule.

Early Warning and Space Surveillance Systems. It is important for DOD to be capable of continuously monitoring all militarily significant activities in space for space control and force enhancement operations. This space surveillance network provides a widely dispersed, responsive, and capable system of sensors for timely and accurate detection, tracking, and identification of space objects and events.

The Defense Support Program (DSP), the nation's satellite early warning system, provides tactical warning and limited attack assessment (TW/AA) of ballistic missile attack as well as surveillance of space launches and nuclear detonations in near real time. The DSP system consists of satellites in geostationary orbits, fixed and mobile ground processing stations, and a ground communications network. The savings from the DSP MYP contract, awarded in July 1987, are $455.5 million or 27.9 percent less than an annual buy contract.

Attack assessment data are also provided by the Nuclear Detonation Detection System sensors carried on

the GPS spacecraft. These sensors provide highly survivable and accurate location fixes and yield readings, in near real time, to military and civilian users for strike, damage, and attack assessments; force management; and test ban monitoring.

The Air Force space-based radar efforts have expanded from the initial concept exploration studies conducted to satisfy the needs described in the JCS-approved Multi-command Required Operational Capabilities (MROC) for wide-area surveillance, tracking, and targeting. These studies, which included participation by Canada, were funded jointly by the Air Force, Navy, and the Defense Support Projects Office (DSPO). USSPACECOM also provided a corresponding Mission Need Statement (MNS) for a space-based wide-area surveillance (SBWAS) system which was approved by the Joint Requirements Oversight Council (JROC). The JROC also validated combatant command requirements for SBWAS which define specific needs of the ten warfighting CINCs, including counternarcotics surveillance. The Defense Acquisition Board (DAB) approved a concept exploration decision for SBWAS, to include investigating the radar technology being developed by the Air Force and an alternative technology being developed by the Navy. Between Milestone O and Milestone I the Air Force has focused its concept exploration efforts on all-weather, all-altitude radar alternatives to satisfy the validated SBWAS requirements. A DAB Milestone I demonstration/validation review will be held in early 1990.

SPACE CONTROL

Space control activities ensure freedom of action in space for friendly forces and, when directed, deny it to the enemy. Space control requires the integration of anti-satellite (ASAT), survivability, and surveillance capabilities.

Air Force Anti-Satellite Program. It is essential to acquire and operate ASAT capabilities. Since the United States needs an ASAT capability to deter Soviet ASAT employment and to deny the unconstrained use of space assets against our forces, the Air Force is developing a single comprehensive battle management/C^3 system to control all ASAT capabilities. In addition, the Air Force is appointed the ASAT weapon systems technical integrator for all system interfaces, end-to-end testing, interface control documentation, and total system performance analysis. The Air Force is developing the technologies required for a ground based laser ASAT as well as some of the specific device technologies. Additionally, upgrades to Air Force space surveillance assets will support new US space control initiatives.

Survivability in Space. Given the increasing dependence on space-based systems and the potential of our adversaries to deny our use of them, US space systems must be as survivable as the forces they support. Satellite system survivability includes the development of safeguards for satellites, data links, and ground elements to counter a variety of threats. In addition, satellite system

survivability includes development of an on-board warning and attack reporting system.

FORCE APPLICATION

National Security Space Guidelines, contained within the National Space Policy, state that, consistent with treaty obligations, the DOD will conduct the research, development, and planning to be prepared to acquire and deploy space systems should national security conditions dictate. If a decision is made to deploy a ballistic missile defense (BMD), Air Force Space Policy envisions the Air Force acquiring, operating, and integrating space-based BMD assets, as well as providing battle management/C^3.

Strategic Defense Initiative (SDI). Currently the Air Force is working with the Strategic Defense Initiative Organization (SDIO) to complete an evaluation in the 1990s of FSD prospects of selected defensive systems.

The Air Force is the executive agent for three of the seven SDI Phase I program elements: the Boost Surveillance and Tracking System (BSTS), the Space-based Surveillance and Tracking System (SSTS), and the Space-Based Interceptor (SBI). BSTS and SSTS, beyond their roles in a BMD architecture, will provide capabilities for performing traditional TW/AA and surveillance missions. BSTS is the first Strategic Defense System element scheduled for an FY 91 FSD decision. The Air Force, with SDIO and JCS, is working to ensure that the FSD decision will lead to a system deployment which validates TW/AA requirements while complying with the Anti-Ballistic Missile Treaty of 1972. In addition, the Air Force conducts research activities to investigate options for sensors and weapon systems for follow-on portions of the SDI Phase I System.

OTHER MISSIONS

Several other Air Force missions are in areas not normally associated with traditional military roles. The Air Rescue Service performs combat aircrew recovery and other rescue operations. Air Force special operations forces (SOF) provide unique military capabilities to support a wide range of national objectives, especially in low-intensity and unconventional scenarios. Finally, a range of Air Force assets are actively integrated into counternarcotics operations.

RESCUE

As a result of the transfer of 14 Rescue HH-53 helicopters to special operations and the phaseout of UH-1Ns and H-3s, Air Force rescue capability declined significantly over the past several years. The on-going rescue force structure modernization is now reversing this trend. By adding the MH-60G to our rescue inventory, we dramatically increase our ability to recover aircrew members downed in future conflicts. The MH-60G will feature an aerial refueling capability, extended range tanks, precision low-level navigation, improved communications, and upgraded self-protection systems. Active, Reserve, and Guard forces are included in this rescue modernization program.

On August 1, 1989, the Aerospace Rescue and Recovery Service was redesignated as the Air Rescue Service (ARS) and given its own headquarters at McClellan AFB, California. Still under Military Airlift Command (MAC), ARS is now the focal point for worldwide Air Force rescue forces. ARS manages the full spectrum of rescue operations, including support for NASA's space shuttle missions, Strategic Air Command missile sites, and the Air Force Rescue Coordination Center Scott AFB, Illinois. The renaming also makes ARS a direct reporting unit to Headquarters MAC, thus removing all rescue resources from 23rd Air Force.

SPECIAL OPERATIONS FORCES (SOF)

Special operations forces (SOF) provide a versatile military capability to conduct missions in pursuit of national military, political, or economic objectives. As an integral part of the total defense posture, they are an instrument of national policy. Therefore, the United States must be able to conduct special operations missions globally at all levels of conflict when the use of conventional forces is inappropriate, or when special operations would enhance other military operations. In support of national objectives, SOF conduct or support foreign internal defense, unconventional warfare, direct-action missions, special reconnaissance operations, and counter-terrorist operations. The effectiveness of SOF often depends on surprise and unique equipment. Air Force SOF units thus include specially trained personnel equipped to conduct unusual, short-notice, sensitive, and low-visibility operations.

Although special operations employ many types of forces, the Air Force organizes, trains, and equips specific units to conduct these operations as their primary mission. Dedicated Air Force SOF units are equipped with MC-130, AC-130, EC-130, MH-53, H-3, HC-130, and MH-60 aircraft. In addition, selected C-130, C-141, C-5, and KC-135 aircrews are trained to augment the primary SOF. All of these forces train to participate in large- and small-scale operations and have the flexibility to conduct operations throughout the spectrum of conflict.

In accordance with the FY 87 National Defense Authorization Act, the United States Special Operations Command (USSOCOM) was created in April 1987. The mission of the USSOCOM is to prepare SOF to carry out assigned missions and, if directed by the President or Secretary of Defense, to plan for and conduct special operations activities. To accomplish that mission all CONUS-based Active and Reserve SOF are assigned to the Commander in Chief, US Special Operations Command (USCINCSOC). In accordance with Title 10 U.S.C., USSOCOM has been given unique responsibilities from all other unified commands, to include full budget authority in FY 92. USCINCSOC is responsible for full budget execution authority for the acquisition of SOF-peculiar equipment, materiel, supplies, and services worldwide effective with the FY 91 President's Budget.

Modernization of SOF Assets. The acquisition of the MC-130H Combat Talon II will reduce SOF shortfalls. The MC-130H Combat Talon II is a night, adverse-weather, low-level transport dedicated to the SOF mission. Used primarily for infiltration and resupply of Army Special Forces, Army Rangers, and Navy SEALs, this aircraft reduces the shortfall in meeting validated requirements. We plan a total buy of 24 aircraft to augment our current limited force, with initial operational capability (IOC) programmed for FY 91.

New AC-130U gunships will modernize the gunship fleet as AC-130As are retired. These aircraft will have physical and performance characteristics similar to a basic C-130H. Their extended range, made possible by aerial refueling, will improve Operational Security (OPSEC) and allow operations outside of politically denied regions or airfields. The Air Force has identified funds to procure twelve C-130H airframes to convert to AC-130U gunships. An avionics and weapon systems integration contract was awarded to Rockwell International in July 1987. Four aircraft will reach IOC in FY 93.

The H-53s are also being upgraded to address part of the shortfall in special operations medium-range, vertical-lift capability with all 41 Air Force H-53s modified to the MH-53J PAVE LOW III enhanced configuration by the end of FY 90. In addition, unique integrated avionics systems and defensive electronic suites provide night and adverse-weather capability in hostile areas.

Other modifications are also underway to enhance reliability, maintainability, and combat capability.

These modifications range from a major Service Life Extension Program (SLEP) for the MH-53s to SOF enhancements for the EC-130, HC-130, AC-130H, and MC-130E. The C-130E and C-141B Special Operations Low Level (SOLL) aircraft are also being modified to augment dedicated SOF aircraft.

Special Operations Command and Control (C^2) Upgrade. The C^2 for special operations must be designed to meet unique mission requirements while maintaining interoperability with conventional forces. The special operations C^2 upgrade program acquires deployable communications equipment for the special operations wings, combat control teams, and weather teams. In addition to manpack/team communications, six deployable Air Force Special Operations Center/Special Operations Base C^2 systems are being built for delivery in early 1990. The first phase of the C^2 upgrade program includes delivery of off-the-shelf equipment to meet immediate short falls. The second phase of the program, beginning in 1992, acquires communications equipment developed especially for the special operations environment.

COUNTERNARCOTICS

On September 18, 1989, the Secretary of Defense issued guidance designed to assist in the swift and effective implementation of the President's National Drug Control Strategy. This guidance designated the detection and countering of the production, trafficking, and use of illegal drugs as a high priority national security mission of the Department of Defense. Furthermore, the Secretary of Defense has approved plans submitted by specified and unified commanders to elevate the priority of the counternarcotics mission in their areas of responsibility. The Air Force will provide significant support to each CINC during the implementation of these plans. The Air Force Office of Special Investigation (AFOSI) is the lead Air Force investigative element to support those CINCs who have been tasked to execute the DOD Drug Smuggling Detection and Monitoring mission.

The Air Force has people at various staff agencies dedicated full-time to working anti-drug policy and plans issues. AFOSI's Joint Drug Enforcement Teams (JDET) are given specific responsibility for drug enforcement at more than 50 bases worldwide. These JDETs participate in proactive joint operations with local, regional, federal, and international law enforcement agencies. This past year, with the JDETs and proactive joint operation concepts in full swing, AFOSI assisted law enforcement agencies (LEA) with the seizure of more than $225.0 million worth of drugs as compared to 1988 when the net result of AFOSI drug suppression assistance totaled $1.38 million.

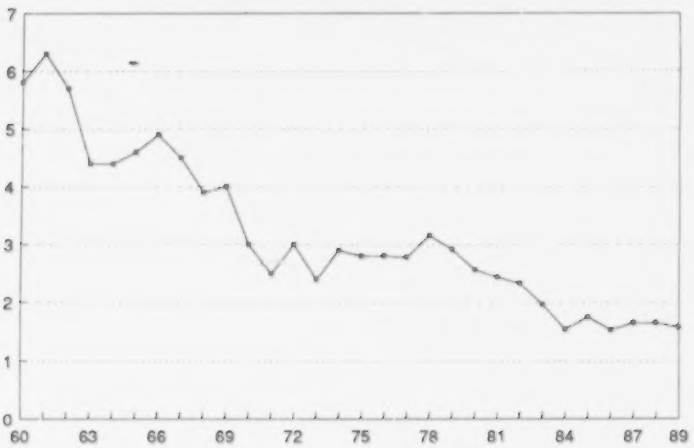
Many other Air Force personnel also work part-time to combat the illegal shipment of drugs into the United States. For example, we have supported counternarcotics efforts with mobile and fixed air surveillance radars. One TPS-43E mobile radar and twenty people have been deployed to Cabo Rojo, Dominican Republic, since December 1, 1986. An Air

National Guard (ANG) mobile radar has been in the Bahamas since July 1, 1989, while a second ANG radar was deployed from July through September 1989. The Air Force also mans a United States Customs Service (USCS) TPS-44 radar at San Isidro, Dominican Republic, and provides 24-hour coverage with a TPS-43 from San Andros Island in the Bahamas. Furthermore, four Air Force-operated Sector Operational Control Centers and the Hawaiian Regional Operational Control Center coordinate radar information from 46 radars and 9 aerostats with LEAs conducting anti-drug operations. The Air Force also supports LEAs with the loan or transfer of equipment, such as tracking radars from fighters, radar display consoles, RG-8 aircraft, fuel trucks, M-16s, secure radios, and tactical air navigation systems. Still, there is not enough detection and monitoring equipment available to cover the large number of air smuggling routes into the United States. Therefore, more command, control, communications, and intelligence and ground surveillance sensors are needed to provide an effective system for detecting, intercepting, and handing off airborne drug traffic to LEAs.

APPENDIX

USAF CLASS A MISHAP RATE, 1960 - 1989

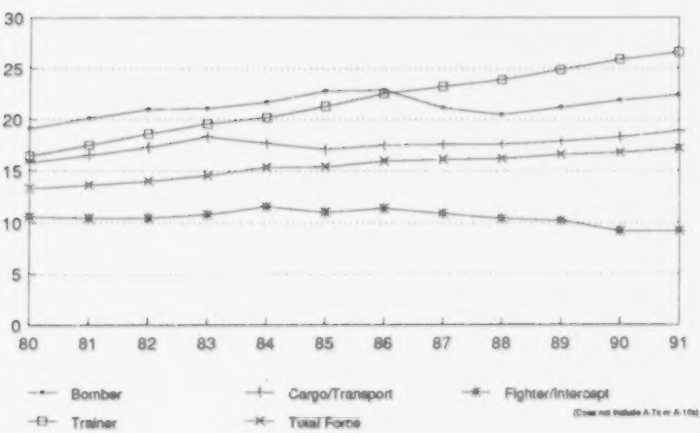
MISHAPS PER 100,000 FLT HRS



Source: SAF/IGA

AIRCRAFT INVENTORY

ACTUAL/PROJECTED AVERAGE AGE



Source: AF/PRPR

SUMMARY OF APPROPRIATIONS (TOA)

(Then year $ Billions)

APPROPRIATIONS	FY 90	FY 91
Aircraft Procurement	15.4	14.2
Missile Procurement	6.6	9.0
Other Procurement	8.3	8.3
RDT&E	13.5	13.3
MILCON		
AF	1.2	1.4
AFR	0.1	0.1
ANG	0.2	0.1
O&M		
AF	21.8	22.0
AFR	1.0	1.0
ANG	2.0	2.2
MILPERS		
AF	20.0	20.0
AFR	0.7	0.7
ANG	1.1	1.1
Stock Fund	0.1	1.3
Family Housing	0.9	1.0
TOTAL TOA*	92.8	95.7

SELECTED KEY PROGRAMS

(Then Year $ Millions)

	RDT&E		PROC		QTY	
	FY 90	FY 91	FY 90	FY 91	FY 90	FY 91
AIRCRAFT (3600) (3010)						
B-2A	1881	1567	2070	3206	2	5
C-17	885	541	1208	1909	4	6
F-15	86	89	1337	1700	36	36
F-16	25	70	2984	2795	150	150
AC-130U	22	0	239	0	5	0
MC-130H	12	0	201	0	2	0
MH-60G	0	0	49	37	4	4
MISSILES (3600) (3020)						
Peacekeeper	789	556	833	1861	12	12
AMRAAM	15	26	688	893	815	1250
Maverick	0	0	169	7	2270	0
HARM	10	1	77	30	326	120
SRAM II	216	157	11	87	0	25
SPACE SYSTEMS (3600) (3020)						
DSCS	25	17	48	64	0	0
Navstar/GPS	68	62	142	315	0	0
DMSP	48	50	119	160	1	1
DSP	80	70	419	404	1	1
Space Boosters	362	234	230	209	3	2
Medium Launch Vehicle	0	0	165	270	3	5

*Numbers may not add due to rounding

RESEARCH, DEVELOPMENT, TEST, AND EVAULATION TOA

BUDGET ACTIVITY ($ BILLIONS)	FY 90	FY 91
Tech Base	0.8	0.8
Advanced Tech Dev	0.6	0.6
Strategic	4.5	4.3
Tactical	3.9	3.8
Intel/Com	2.1	2.3
Def Wide Msn Spt	1.6	1.5
TOTAL*	13.5	13.3
STRATEGIC ($ MILLIONS)		
ICBM Modernization	889	751
MILSTAR	400	744
SRAMII	216	157
TACTICAL ($ MILLIONS)		
C-17	885	541
ATF	1046	1047
JTIDS	18	38
AMRAAM	15	26
Joint STARS	100	260

*Numbers may not add due to rounding

AIRCRAFT PROCUREMENT BY BUDGET ACTIVITYTY

(Then Year $ Billions)

BUDGET ACTIVITY	FY 90 QTY	FY 90 AMOUNT	FY 91 QTY	FY 91 AMOUNT
Aircraft	237	10.6	234	12.1
Modifications		2.6		1.8
Spares & Repairs Parts		2.2		0.3
TOTAL*		15.4		14.2

*Numbers may not add due to rounding

AIRCRAFT PROCUREMENT BY WEAPON SYSTEM

(Then Year $ Millions)

WEAPON SYSTEM	FY 90 QTY	FY 90 AMOUNT*	FY 91 QTY	FY 91 AMOUNT*
B-2A	2	2070	5	3206
F-15E	36	1337	36	1700
F-16C/D	150	2984	150	2795
MC-130H	2	201	0	0
MH-60	4	49	4	37
AC-130U	5	239	0	0
C-17	4	1208	6	1909
C-27	5	73	5	80

*Includes weapon system only

MISSILE PROCUREMENT BY BUDGET ACTIVITYTY
(Then Year $ Billions)

BUDGET ACTIVITY	FY 90 AMOUNT	FY 91 AMOUNT
Ballistic Missile	0.9	1.9
Other Missiles	1.4	2.1
Modifications	0.1	0.1
Spares & Repair Parts	0.2	0.3
Other Support	4.1	4.6
TOTAL*	6.6	9.0

*Numbers may not add due to rounding

MISSILE PROCUREMENT BY WEAPON SYSTEM
(Then Year $ Millions)

WEAPON SYSTEM	FY 90 QTY	FY 90 AMOUNT*	FY 91 QTY	FY 91 AMOUNT*
Peacekeeper	12	833	12	1861
AGM-65 Maverick	2270	169	0	7
HARM	326	77	120	30
AMRAAM	815	668	1250	893
SRAM II	0	11	25	87
DMSP	1	119	1	166
DSP	1	419	1	404
Space Boosters	3	230	2	209
Medium Launch Vehicle	3	165	5	270

*Includes weapon system only

OTHER PROCUREMENT BY BUDGET ACTIVITY
(Then Year $ Millions)

BUDGET ACTIVITY	FY 90	FY 91
Munitions & Associated Equip	0.4	0.4
Vehicular Equip	0.2	0.2
Electronic & Telecom Equip	2.1	1.7
Other Base Maint & Spt Equip	5.6	6.1
TOTAL*	8.3	8.3

*Numbers may not add due to rounding

OTHER PROCUREMENT MISCELLANEOUS

(Then Year $ Millions)

BUDGET ACTIVITY	FY 90	FY 91
Munitions & Associated Equipment		
20MM (TRG & Combat)	28	45
30MM (All Types)	48	47
CBU-87 (Combined Effects Munitions)	137	0
BSU-49/50 Infl Retarder	6	19
FMU-139 Fuze	25	33
BIGEYE	7	58
Bomb Hard Target 2000 Lb	0	0
Vehicular Equipment		
5 Ton Dump Truck	3	2
Mobile Arm Recon Vehicle	0	0
Runway/Street Cleaner	5	4
Electronics & Telecommunications Equipment		
Weather Observation/Forecast	54	50
MAC Command & Control	22	22
Over-the-Horizon Backscatter Radar	197	0
Automatic Data Processing Equipment	55	55
Range Improvements	114	66
Joint Tactical Communications Program	40	72
Spares	235	140
Tactical Air Control System Improvements	224	232
SAMTO Test Ranges I&M	59	47
Satellite Control Facility	67	88
USCENTCOM	9	5
Wideband System Upgrade	55	14
Minimum Essential Emergency Communication Net	3	3
Other Base Maintenance & Support Equipment		
Chemical/Biological Defense Program	55	43
Medical/Dental Equipment	107	84
Mobile Electric Generators	25	4
Air Base Operability	26	11
Mobility Equipment	12	8
Base Procured	34	38

PERSONNEL END STRENGTHS
(In Thousands)

	FY 90	FY 91
Active Duty Military	545.0	530.0
Civilian		
Direct Hire	248.6	246.3
Indirect Hire	13.2	12.5
Selected Reserve		
AFR	84.9	85.2
ANG	116.2	116.3

PERSONNEL COST*
(Then Year $ Billions)

	FY 90	FY 91
Active Duty Military	20.0	20.0
Civilian**	6.8	6.4
Selected Reserve		
AFR	0.7	0.7
ANG	1.1	1.1
AF TOA	28.6	28.2

* Does not include personnel support (medical, training, 50% BOS, recruiting)
** Includes Active, Guard, and Reserve but excludes Industrial Fund Portion

THURSDAY, FEBRUARY 22, 1990.

FISCAL YEAR 1991 NAVY POSTURE

WITNESSES

HON. H. LAWRENCE GARRETT, III, SECRETARY OF THE NAVY
ADM. C.A.H. TROST, CHIEF OF NAVAL OPERATIONS, U.S. NAVY
GEN. A.M. GRAY, COMMANDANT, U.S. MARINE CORPS

INTRODUCTION

Mr. MURTHA. The committee will come to order. Today we are pleased to welcome the Honorable H. Lawrence Garrett III, Secretary of the Navy, Admiral Carlisle Trost, Chief of Naval Operations and General Al Gray, Jr., Commandant of the U.S. Marine Corps who will discuss the fiscal year 1991 budget request for the Navy and Marine Corps. We are especially glad to welcome Secretary Garrett who appears before the Subcommittee for the first time as Secretary of the Navy. We will place the complete text of your statement in the record.

It is an interesting thing—I tell Secretary Cheney to cut back on the Defense Department and Jamie Whitten says, "Whose the first guy they cut? It's Murtha." So General Gray just cut me out of the Marine Corps. Is he tough? That is what you call really cutting to the bone.

If you will summarize your statements we will put your full statements in the record and then we will get down to questions.

[CLERKS' NOTE.—The Fiscal Year 1991 Posture Statements of the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps is printed at the end of this hearing. See page 553.]

SUMMARY STATEMENT OF SECRETARY GARRETT

Secretary GARRETT. Mr. Chairman and Members of the committee, I welcome this opportunity to review with you the posture of the Navy-Marine Corps team and to discuss with you the Department of the Navy budget for fiscal year 1991.

As we all know, Mr. Chairman, dramatic changes in the world order are now unfolding that are likely to alter fundamentally the basic tenets of U.S. defense planning.

While many of these changes give us cause for great hope, others are cause for great concern. For instance, there has been no increase in regional stability to accompany the positive trend in superpower relations; a simple fact illustrated by events in Asia, Central America, and by continued conflict in the Middle East.

Complicating this picture is the rapid proliferation of sophisticated weapons to Third World countries, many with regimes that are hostile to U.S. interests. And while we welcome the new views ex-

pressed by Soviet leaders, Soviet naval capabilities are still formidable, and in some areas are in fact expanding. Indeed, progress toward a more democratic Eastern Europe, with its potential for lower overall levels of armament, is promising, but the course is uncharted, and success is far from certain.

STRATEGIC DETERRENCE

Some aspects of our future, however, Mr. Chairman, are absolutely certain. First, the United States will remain unalterably an island nation, a maritime nation, dependent upon the seas to provide the avenues for our international business, for our links to allies overseas, and to provide a haven for a large portion of our strategic deterrent.

Second, I believe threats to world peace will probably spread throughout the world. To support our national security objectives, the Navy and Marine Corps must continue on station, maintaining a global presence with forces that can be tailored quickly to political, military and geographic circumstances.

Our challenge, Mr. Chairman, is, within fiscal constraints, to provide to the Unified Commanders in Chief a Navy and Marine Corps capable of performing their mission, forces with strong strategic deterrence, sustained worldwide presence, and the flexibility necessary to respond to regional threats; forces which can in addition contribute to national goals of deterring terrorism and the interdiction of narcotics trafficking.

Above all, we must work hard to ensure that actions taken to meet budgetary targets will not reduce our forces in ways that are difficult, if not impossible, to reverse, should new threats emerge quickly.

FISCAL YEAR 1991 BUDGET REQUEST

The Department of the Navy fiscal year 1991 budget before you responds to this challenge and establishes the following priorities.

First, people: The department's highest budget priority is sustaining the professional quality of our sailors and Marines. Only through their efforts can our advanced technology, our training, our tactics and strategy succeed. Accomplishing this requires addressing the aggregate of issues in compensation, quality of life, and training programs that attract and retain the best of America's young people.

I might add, Mr. Chairman and Members of the committee, that I am particularly grateful for your committee's steadfast support of our Naval health care system. Your enthusiastic support of our efforts to find alternatives to the CHAMPUS program is especially appreciated.

Largely as a result of your personal involvement, our Sailors and Marines and their families know that you and the Members of your committee are key partners in the Congress in sustaining and improving our health care system and other crucial quality-of-life programs.

Second, readiness: All deployable Navy and Marine units must be fully manned and ready, in terms of ammunition, spare parts, and training. Naval forces, as shown by our experience in past con-

tingencies, will be given little, if any, time to prepare for combat. Past lessons learned from the days of "hollow" forces shall not be repeated. Sailors and Marines must know that we will not allow readiness to slip.

Third, balance: Our plan for fiscal year 1991 strikes, I believe, a careful balance among competing requirements, including force mix, readiness, sustainability, and investment in research and development.

Fourth, combat capability: Because U.S. superiority in antisubmarine warfare is critical to strategic deterrence, warning, and all other warfare areas, ASW remains the Department of the Navy's number-one warfare priority.

At the same time, we must prepare for the most likely power projection requirements, retaining a strength that resides primarily in the strike potential of our 14 aircraft carrier battle groups and the expeditionary capability of our Fleet Marine Force. Moreover, no warfare areas can be totally neglected in an era of rapid technological progress.

And finally, Mr. Chairman, technology: The qualitative edge enjoyed by the Navy and Marine Corps must endure—in all missions and in all warfare areas. Such superiority demands a vigorous research and development program to support the forces of the future, whether or not a major new threat emerges in the near term. Our budget reflects this emphasis.

SUMMARY

In conclusion, Mr. Chairman, today's volunteer professional Sailors and Marines are, as I said, proud to serve in a revitalized, globally deployed Fleet and Fleet Marine Force, extending the horizons of peace and freedom. All of our men and women, uniformed and civilian alike, are honored to have contributed to the United States strength and resolve that have fostered the peaceful and dramatic events of 1989.

At the same time, we know from experience that uncertainties and dangers remain. The United States is an island nation, dependent upon the seas for our links to our allies, our friends, and our trading partners. Our national security will continue to require a strong, reliable strategic deterrent, sea control, and the ability to project power across the world's oceans.

As we decide together how to structure our defense for the future, we should consider the flexibility and deterrent value of each purchase, favoring those which will have an enduring capacity to respond to the widest variety of likely contingencies.

The Department of the Navy's 1991 budget reflects a plan that meets that challenge and is balanced and affordable. It is worthy of your support.

Thank you, Mr. Chairman.

I would be happy to respond to any of your questions after Admiral Trost and General Gray make their opening statements.

Mr. MURTHA. Admiral Trost.

SUMMARY STATEMENT OF ADMIRAL TROST

Admiral TROST. Good morning, Mr. Chairman, and thank you.

I would like to briefly summarize my statement and add a little bit of the philosophy that underlies many of the actions we have been taking as we prepare for this period of continuing fiscal constraint.

SOVIET NAVY

I had an opportunity last October to visit the Soviet Union as the first of the U.S. military chiefs to participate in this exchange of visits that had been agreed to by Admiral Crowe, Chairman of the Joint Chiefs, and Marshall Akhromeyev while he still served as the chief of the General Staff of the Soviet Union.

One of the highlights of that six-day visit was the opportunity to address some 1,200 Soviet Naval officers in Leningrad at the Grechko Naval School. I gave them my philosophy. I can tell you they listened and in many cases they agreed. I would like to share that philosophy with you; and let me quote from two paragraphs of that speech.

All of us in this auditorium are Navy men. More than anything else, we understand the suffering and the pain of war. Our government's principal charge to us is to deter war so that the war-fighting skills we have trained long and hard to master will never be required. I am hopeful that this new era of understanding between our countries will result in a world where our successors will feel unthreatened by any nation, but the world has a long way to go to meet that goal. Trust and confidence in the intentions of other nations, including reluctance to use force to attain national goals, comes with time and corresponding actions that reflect those qualities.

Our elected governments will control the speed of these developments in our two countries, and hopefully they can influence the rest of the world community to direct their energies in the same direction. In the interim, we, the military, must remain ready to defend our nation's security interests. We must do so not by fancifully trying to assess the intentions of a potential challenge or threat, but by assessing the reality and true capability of those who might pose a threat. The citizens of our countries deserve nothing less.

MILITARY PERSPECTIVE

I quote those words because I want to share with you a perspective that I have learned through my many years of Naval service. I have found that the perspective of military leaders in general is one that abhors war, that longs for peace, and tries to assimilate change productively. It is not the perspective of the caricature general or admiral who is "fighting the last war" or "lamenting the purgatory of peace," both of which we have seen recently. That scenario type may exist in the cynical minds of pundits, but it does disservice to the many patriotic and dedicated people who have dedicated their lives to the service of our country.

We have a lot of good people in our military services today. They are asking the same questions about the future that all Americans are asking, and they are trying to understand the changes and plan for the future security of our nation.

Now, we know that planning for an uncertain future is no mean task, but I believe we have to be practical and we have to focus on the possible, and that simply means we start from where we are, not from where we might wish to be. Let us discuss where we are today.

TODAY'S NAVY

As you are aware, today's capital-intensive Navy is centered around 14 aircraft carrier battle groups and about 560 ships overall. We have some 590,000 active-duty personnel and another 150,000 reserve volunteers, and they are by all accounts the finest who have served our Navy in its history.

We have a formidable sea-going force, and it took a lot of years to get it. It represents a highly sophisticated, complex investment on the part of our people and it is stressed to a remarkable degree by the demands of today's commitments. Our Navy cannot be dismantled capriciously without potentially grave danger to our national-security interests.

I would also like to note that this Navy we have today is no accident. It is the culmination of some two centuries of trial and error, and today, as we see the Berlin Wall being disassembled and the seeds of freedom sprouting throughout the world, we ought to realize that we must be doing something right, and whatever it is, now isn't the time to throw it overboard.

SOVIET THREAT

Let me tell you what I think we are doing right. I agree that it is neither logical or politically prudent for us to continue to beat the drums of the looming threat of the Soviet Union, nor should we fall prey to the temptation to simplistically explain our force requirements principally in relation to the Soviet Union's military capability.

It is prudent, however, regardless of our most sincere hopes, to recognize that the Soviet Union alone among the nations of the world still has the military capability to destroy us. We can't forget that fact, especially as we see continued modernization and improvement of their forces despite their rhetoric and numerical reduction processes largely driven by their economic plight.

Long before the military capability of the Soviet Union became the focus of our national security concerns over four decades ago, the thread of continuity through our history has been our country's reliance on the sea.

ROLE OF THE NAVY

I won't repeat what Secretary Garrett already said about the role of the Navy, but I should note that reliance on the sea and the continued, unfettered, continuous exploitation of the freedom to use those seas is essential to our way of life and the principles on which it is grounded. We have been called upon to enforce these principles many times over the decades during both war and peace, and more often than not, maritime forces have been the force of choice in crisis. In an increasingly unstable and multipolar world, I don't expect that to change.

The expansion in the world population, the proliferation of nuclear weapons, the drug problem, the proliferation of sophisticated conventional weapons, the rise of fundamentalism and nationalism in many countries, and the numbers of Third World countries joining in the community of nations all augur for a less predictable world.

In a crisis, a Navy that isn't ready or on station isn't useful. We are accustomed to a Navy, to maritime forces that are ready, and our presently constructed force has proven capable of meeting its missions time and time again.

It isn't useful to think in terms of a future force structure remarkably different from the one in which we have invested so much. It wouldn't be practical or affordable. We have to remember that it takes a long time to build a ship.

I would like for the record to correct a perception reported by the press about the remarks the Secretary and I made in a hearing before the Armed Services Committee two days ago. It is not accurate to say we see no change in the Navy. We do see no change in the requirements for a Navy. We do see a need for a Navy of approximately the size that we have today to meet our foreseeable commitments.

PERSONNEL

I would also like to emphasize the importance of our personnel. The men and women who man our ships and our support establishments are the true measure of our strength. They have proven themselves in combat, under trying conditions, proven their willingness to make deep personal sacrifice in long deployments away from home.

But we have to recall that there is a limit to that willingness. If we don't adhere to the constraints on our deployment guidelines, and if we don't properly support our personnel and their quality of life, they are not going to be here to serve their country in the manner to which we have become accustomed.

FORWARD DEPLOYED FORCES

I would like to emphasize that being a world-class power carries world-class responsibilities. The fundamental premise of our national security strategy of forward deployed flexible and sustainable forces remains as valid today as it has any time in our country's history.

Unilateral retrenchment of our forward-deployed forces from regions of our vital interest isn't possible without sending signals either of uncertainty to our friends or giving comfort to those who might wish us harm. I would therefore urge at this juncture that we not abandon the principles which have been sustained for over two centuries, the principles we hold so dear.

I am cautiously optimistic about the future because I think we will continue to do that which is necessary to maintain peace not only in our time but through the lives of our grandchildren.

Thank you very much, Mr. Chairman and Members of the committee.

Mr. MURTHA. Let me just say that we see that in this year's budget, you added extra money as a follow-on to what we put in for medical services last year. Former Secretaries had taken out what we had put in. We appreciate your attention because this committee has taken a personal interest in medical services.

We first ran into it when I was out in the fleet and they complained about the medical service, so we appreciate your attention

to it. We think there is nothing more important than making sure we take care of the Armed Services personnel and their dependents, and also it saves us substantial amounts of money. So we appreciate your attention to this detail.

General Gray.

SUMMARY STATEMENT OF GENERAL GRAY

General GRAY. Thank you, Mr. Chairman and distinguished Members of the committee.

In addition to our annual posture statement, we have prepared a booklet again this year of our Concepts and Issues for Members of the committee and their staffs. Hopefully it will give you a snapshot of not only where we are today but where we believe your Corps of Marines should go towards the year 2000 and beyond.

FUTURE FORCE STRUCTURE

I mention the year 2000 now because in this transitional year, as you decide on the fiscal year 1991 budget, and we concurrently develop the Program Objective Memorandum for the fiscal year 1992 budget, and all that is occurring in the next six to nine months, I think we are shaping the military force structure and capability for the year 2000. It is exceedingly difficult, and there has to be a linkage.

I think we must make some tough choices and perhaps even go without some things that we would like to have in the years ahead. All of us in the military must ensure that we have the kind of capability that we need as we enter the next century.

Within that construct, we must also remember that despite what we see in Europe every evening on television, there are still a great many people around this world who wish us ill will.

REGIONAL CONFLICTS

There is, in my judgment, more than ever, strategically, a need for strong, flexible and very responsive forces to meet regional types of conflict. These forces may not have to respond to an entire regional conflict. However, they are the types of forces that we need to handle the conflict that we will face during the rest of this decade. A credible force capability will make possible the maintenance of stability in Europe through credible deterrence.

Interestingly enough, your Marine Corps has a long line and tradition of preparedness for these kinds of conflicts, as that is really what the intent of the Congress has been. If you go back and look at the deliberations of the 82nd Congress, you see codified in law their forward thinking at that time. The Congress understood a need for a Corps of Marines, naval in character, expeditionary in focus, prepared and ready at a moment's notice to do what must be done.

NATO ALLIANCE SUPPORT

Over a period of time we have found that we have had to be prepared for the entire spectrum of conflict. Ironically, the Marine Corps remains the principal strategic reserve to the NATO alliance; and that is extremely important. If we didn't already have

one, we would have to create some kind of Reserve to support the START talks, the execution of the CFE, and other treaty implementations. We all know that NATO is a political-military-economic alliance. It can be weighted as strategy requires. The point is, that we do what we can to protect the NATO alliance and keep that solidarity, despite change and the individual desires of nations. It has functioned like a sine curve over history, but somehow it always seems to pull together.

I mention that because if we can look forward to the consummation of the CFE talks and perhaps further discussions, you will see that maritime power, Naval power and Marine expeditionary forces, becomes the key towards that conventional credibility. In other words, they are the only forces that will be prepared initially to shore up that idea; or, to send, again, a credible signal.

The two Marine expeditionary forces that have long been the strategic reserve of Europe, along with other forces, become very, very important to that part of the world. We can perform that mission today and our plans and programs support that effort for the future. However, as I have indicated over the years in our posture statements it is the lesser developed regions of the world where we see the greatest potential for conflict, instability and unrest. Given there will be continued unrest in Eastern Europe, which is our current focus, it is elsewhere where I think our interests must be focused.

It is here where many of the precious resources and minerals reside. We and the rest of the free world tend to take those resources for granted. They are not just good to have but are vital to our survivability as a nation and perchance to our ability to flourish economically.

ISLAND NATION

So, stability, access, and trade in these regions are very, very important to the American people and to the free world as we know it today. It is back and forth across those highways we call oceans that we move these precious resources. It is access to sea lines of communications, the maritime idea that the Secretary and Admiral Trost have pointed out, upon which we must refocus again. We are an island nation and we must have a maritime capability, as is recognized very clearly in the Secretary of Defense's budget guidance for the fiscal year 1992 process, wherein it says, "We must maintain our maritime superiority." That is as strong language as has been in that document for a long time.

[CLERKS' NOTE.—Subsequent to the hearing the following information was provided for the record.]

Reference to the U.S. as an "island nation" is aimed at describing our strategic culture or approach to world politics.

The fortunate geographic position of the U.S. parallels with that of Great Britain's, the classic island power. Neither share land borders with any potential enemy sufficiently powerful to threaten it directly. Historically, an island nation is predisposed to use the oceans as both a sword and a shield.

As a sword, the oceans are used as the active medium of political, economic, military connectivity between the island nation and those distant points of vital or lesser interest. As a shield, the existence of a significant water barrier provides an island nation the option of not maintaining a large standing army in peacetime, be-

cause it can hope to create one in an emergency. Today, the maintenance of a credible standing army is essential, but its size is debatable.

If the oceans are the active medium of an island nation, then seapower is the guarantor of the use of that medium. Our approach to world politics and economics has and will continue to prescribe unfettered use of the seas. Politically speaking, we would find it difficult to maintain our internal political system if we were the only democracy left in the world. Use of the seas enables us to work with other like-minded nations. Our leadership is a function primarily of our interest to exercise an influence in the world commensurate with our size and our stake in the spread of open societies and open economies. For an island nation to lead the free world politically requires this maritime connectivity.

We are economically connected to many nations who are not efficiently accessible by sea in today's transportation system. The oceans remain the medium over which moves 70% or more of our total international trade by value and 99.7% of our overseas export and import tonnage. We depend on a maritime capability for overseas consumers, raw materials, and energy resources which provides this nation with a degree of wealth and a standard of living which it could not generate on its own.

Although we seek to deter conflict, in the end we will conduct our military campaigns as far from our shores as possible with the help of our allies and friends. This strategic concept typifies the inclination of an island nation to project its military power overseas by establishing outposts abroad, outposts which must be maintained by sea lines of communication. Such outposts of forward defense may be foreign bases, but in view of our ideological predispositions, these bases are ours to use only as long as the host nation allows it. These outposts can also be of a semi-permanent nature: ships on foreign stations, elements of fleets crusing off foreign shores, or sea bases in international waters. To enlist the cooperation of an ally in the conduct of our forward defense being executed in his backyard, we can rely on the inherent flexibility of naval forces to be responsive to the host country's nationalist sensitivities. When an island nation must act unilaterally to protect its interests, again naval forces would remain the central element around which military strategy is built. Arguably, the oceans are the most efficient and dependable path to and from our forward outposts and allies. Seapower, in the form of sea control and power projection, creates warfighting capability on an adversary's soil.

It is clear to the naval services that an island nation requires a dominant maritime or seapower strategy, one that is fitted to and properly viewed as a component of our overall national military strategy. The more these components compliment each other, the greater the likelihood that military means will promote the attainment of our foreign policy goals. For years, out of political necessity, we were tied to a continental focus. For an island nation, this would seem to be somewhat out of character. We have an opportunity to align our military strategy with our strategic culture.

On this point, the British decision at the turn of the last century to fail to invest in the capabilities or forces needed to maintain global naval supremacy can be instructive. Then, like now, the distribution of power in the regional balances of the Atlantic and Pacific was shifting. While there were other factors at play, not the least of which was a taut budget and aversion to raising taxes, the British leadership had neglected to support her naval forces and fortified the comparative advantages she had accrued from them. The British found themselves exceedingly dependent on the good will of new regional powers. But more importantly, if British interests were seriously challenged in more than one place at a time, the options to respond were severely limited. The implications for the U.S. are clear.

For an island nation, a dissipation of naval presence and power could be interpreted as signs of retrenchment, an act which could produce the very weakening of U.S. power which it is supposed to avert. This island nation expects its naval forces to guarantee superpower influence, power, and leadership. In closing, a maritime strategy for an island nation operationalizes an observation made by a famous naval officer that "there is a lot more you can say here and do there when your forces are there, than you can say or do when your forces are here."

CENTRAL EUROPE

General GRAY. For a long time, I have felt that we had a myopic focus on Europe, particularly the central region. We have had a continental strategy for a maritime nation, while we have watched the Soviet Union, a land nation, have a maritime strategy. It is interesting how this has unfolded. In those regions of the world our

forces must be prepared now, but not everybody in the Armed Forces must be equally prepared.

Somehow we must understand what phasing of forces and sequential operations are, and what a campaign plan is really all about. Those are some of the tough choices that we all face.

FISCAL YEAR 1991 DEFENSE BUDGET

From our standpoint, aggregate usefulness to the nation is our byline. We believe that we possess that today. We believe that the program that is submitted protects that capability for the nation. It is lean, very lean.

If you include the Navy money that goes towards support of the Marine budget, it comes to about 4.7 percent of the total fiscal year 1991 DOD budget. You get a lot more actual capability for that percentage in terms of the nation's military fighting capabilities, and much more in terms of the ready forces.

I suggest that you can only do that for so long. There needs to be some kind of floor and thought process with respect to what is needed for your corps of the future. We believe that we have taken your Corps of Marines and created a capability not just for amphibious operations, as we have always had, but for the conduct of a wide spectrum of operations. We have done that, "out of hide."

EXPEDITIONARY FORCES

Today, your Marines are in the western Pacific, the Mediterranean, the East and West Coasts and on special assignment in the Caribbean. Your Marine Corps capability complements the Special Operations Forces' capability. It is about as good as we can make it sans any future technology and the like. So again, we have given you the kind of forces that you will need for tomorrow's conflict, rather than yesterday's.

The preparedness issue is uppermost in our mind. We have a fine, quality force. You have heard the Department of the Navy priorities. Again, readiness, preparedness and spirit is what your expeditionary forces must have. We must protect that at all cost.

Your Marines are the only military organization in the world, on either side of what used to be the Iron Curtain, that can meet their global requirements tonight—two 50,000-man each Marine expeditionary forces as the designated reserve to Europe, or for deployment in the Pacific. Only we can meet all of the Unified Commanders' regional contingency plans, responding to anything, from regional conflict down to small mobile training teams; and we can do it today. We can respond with over 60 days sustainability and we need not mobilize a single person from the uniformed reserve.

So, you have a force in readiness today. We should develop other capabilities to complement that; but, it is the expeditionary forces, which you have today, that should be complemented and not the other way around.

Seventy percent of these expeditionary forces are in the operating force. When you consider that and the commitments laid on by my predecessors, that percentage won't change.

As always, of course, we will take whatever the Congress gives to her Marines; and, we will continue to give you the kind of Corps of which you can be proud.

Mr. MURTHA. The rest get their share and the Marines get what little bit is left over.

General GRAY. This morning, the size of the Headquarters Marine Corps is smaller than it was in 1950.

Mr. MURTHA. We have been urging people to consider moving out of the Washington area, and we hope you will have some effect getting out of the Pentagon and out of the Crystal City area.

Mr. McDade.

QUALITY OF PERSONNEL

Mr. MCDADE. Thank you very much, Mr. Chairman.

I want to welcome our distinguished and able witnesses this morning. They have been before the committee many times and have always done a great job, and today is no exception.

Admiral Trost, you talked so much about the quality of the people with your comments to your colleagues at the Soviet meeting. I believe that you are finishing out your term as CNO, are you not?

Admiral TROST. To my regret, and perhaps to the joy of some, I finish on 1 July of this year.

Mr. MCDADE. How many years have you served the country?

Admiral TROST. This is my 41st year in the Navy.

Mr. MCDADE. I know you have been on submarines, on destroyers, you have about done it all. You would have no hesitation in saying that the Navy as you look at it today is the best Navy you have seen in your 41 years?

Admiral TROST. Absolutely no hesitation.

Mr. MCDADE. You would echo that regarding the quality of the people who are in the volunteer services, wanting to make a career and do their work well?

Admiral TROST. I would say the key ingredient is dedicated people who are doing what they understand must be done and they are doing it very well.

PERSONNEL CUTS

Mr. MCDADE. Let me ask a painful question, whether or not this budget that is before us is going to be cut substantially. If you talk to Members on both sides of the aisle, the general wisdom is that there is going to be a further cut probably by the Budget Committee initially, if it occurs there, either, and then following through the system.

You hear figures as high as $10 billion, a figure sometimes of $15 billion, and that is an issue to be played out. We don't know whether there will be or won't be.

Just a hypothetical question. I know those are difficult for everybody. But suppose a $10 billion further cut scenario and let's assume that it got spread across, just divided up across the services a third, a third, a third, so to speak. What in your opinion would be the impact on the future operations of the Navy?

Admiral TROST. My opinion is that both General Gray and I would have to tell you that such a cut in this budget would devastate our ability to do the kinds of things we do now and which we see as necessary for the future. We would be faced with a smaller force because that cut would impact on our personnel structure, which, although expected to shrink in this budget, remains adequate to man the force that we have planned today and for the future.

If we are expected to constantly be ready to react to national contingencies and requirements around the world, we will no longer be able to meet those commitments with a significantly smaller force or with a force where the quality of personnel declines. People will see a challenge that isn't rewarded by either stability in their lives or by compensation.

Mr. MCDADE. Did I hear you indicate that if forced to make an unhappy choice like that, the first place you would have to go is to personnel?

Admiral TROST. That would be the last place we would want to go. A cut would drive the force structure down and we would have to decrease personnel in order not to have extra people around.

Personnel would be the area we would protect, followed by R&D, so we don't lose our edge for the future.

Mr. MCDADE. Have you exercised any contingency planning in the event that such a cut should come down?

Admiral TROST. We have been engaged for the last 14 months in "what if" drills on this budget. We have looked at lots of contingencies.

Mr. MCDADE. Mr. Secretary, do you want to comment and then General Gray?

Secretary GARRETT. I would reinforce the comments of the CNO and the Commandant. Let me put that in perspective.

You are talking an additional $10 billion out of 1991, spread evenly, would be approximately $3-point-some billion dollars. We find ourselves in the 1990 budget with a sequestration from October 1 through February.

There was a shortfall in the military personnel account, Navy and Marine Corps, of approximately $360 million for which we have requested reprogramming and is an issue that I am sure we will discuss. But just for that $360 million, if we were not to obtain the authority of the Congress to reprogram funds to cover that, we would lose approximately 44,000 people end strength. That is 31,000 Navy and 13,000 Marine Corps.

You would have to stop over 10,000 selective re-enlistment bonuses, which means the people who would be contemplating re-enlisting would in likelihood not re-enlist. There would be a freeze on transfers of 18,000 personnel. That is the impact of not receiving reprogramming, for that amount of money.

If you extrapolate that out in the manpower account, even if you divided it equally between R&D, operations and maintenance and manpower, the impact would be absolutely devastating.

Mr. MCDADE. I would be grateful if the three of you would look at what you perceive and put in it the record. Everybody thinks sequestration is a "freebie." We have tried to preach that sequestra-

tion is devastating because of the heavy personnel commitments in the military.

The Chairman and I have talked to many people about that and got no response. Please look at an assumed $3 billion——

Secretary GARRETT. We would be happy to work that issue. We are working, as the CNO says, a lot of what we call "what ifs."

Mr. MCDADE. You are not unaware of the fact that people do think this. I would like you to furnish to the committee what those impacts would be so that we can have the joint feeling of Admiral Trost, the Secretary of the Navy of what that impact would be should such occur.

It is going to be front and center in the debate on the Floor, and the time to talk about it is now, because many assume it is kind of a free lunch. We need to begin to look at that assumption and I know you have had to work all kinds of things in the budget drills, but give us your best opinion on a cut of that magnitude, which is the most frequently mentioned figure I have heard. We need to be able to look our colleagues in the eye and use that kind of a document that you would give us and say, "This is it."

So put in the record a response to that question.

[The information follows:]

The impact of such a reduction is greater than it might initially appear. A rough estimate is that a $3.5 billion outlay reduction spread equally across the Department of the Navy (DON) would require a $6.3 billion reduction in Budget Authority (BA). When the real reduction already included in the President's request is taken into consideration, this would mean that DON would be facing a decrease from FY 1990 to FY 1991 of 10 percent, a severe one-year reduction.

A reduction of this size would have serious consequences. Communities could find bases closing without adequate time to re-adjust. Procurement of various systems could be reduced below efficient levels. Finally, reductions of this magnitude would likely mean our force structure would have to be reduced in order to ensure a remaining deployable force that is adequately equipped, manned and trained. Military personnel might have to be involuntarily separated, a process which, like the Reduction-in-Force procedures for civilians, can be quite costly. Such costs could well offset any anticipated short term savings. Any such action would be extremely detrimental to the morale of those who remain in the force. And, of course, a reduction in forces would make it all the harder to protect our national interests throughout the world.

Beyond these severe consequences, a mechanical allocation is ill-advised because it prejudges defense priorities. Allocation of resources should not be based on pro-rata shares, but instead upon carefully determined priorities. In making such allocations several factors should be kept in mind. The United States is an island nation with two of our fifty states separated from the mainland by thousands of miles of ocean. The vast majority of our trade that supports our quality of life is with nations across the great expanse of the Atlantic and Pacific Oceans. We are critically dependent on this trade for economic survival. Globally deployed naval forces that ensure freedom of the seas are essential to this equation. We should not unwittingly convert our existing naval capabilities into a garrison force.

I welcome the calls of many in Congress for a full discussion of strategy and priorities, because this would focus attention on both the real threats which face us today and the forces we need to counter them. After such a discussion, adjustments can be approached in an intelligent fashion. And it is my belief that at the end of such a discussion it will be concluded by all concerned that the course recommended by the Administration—a gradual program of adjustments based upon actual, rather than predicted, changes in the threat—will be shown to be the most prudent and responsible course for safeguarding the United States.

MARINE CORPS PERSONNEL

Mr. McDADE. General, I certainly want to hear from you about your impressions of what a cut of that magnitude would do to the Corps.

General GRAY. I believe that it would be irresponsible to allocate a Defense budget reduction to the three military departments by one third each. One must look at what is needed for the future; the kinds of forces we need from now into the year 2000 before a rational response can be provided to your question. There has to be clear linkage between our military force structure and capability, both strategic and general purpose forces and the evolving strategies.

In macro terms, I can say that such a cut would be not only devastating to your sea services, but would be very devastating to our Army. The Army is faced with a major force reduction now, and into the foreseeable future. As we look at the draw down in Europe and the probable results of arms control, the Secretary of the Army, and the Chief of Staff of the Army need the time to be able to reshape that as best they can.

Mr. McDADE. We had Secretary Stone and General Vuono yesterday and they laid out their five-year projections as to what they are attempting to do, and emphasized the importance of the structure, if you want to sustain the structure while building down in a planned manner.

He talked about the quality of the people that he has and what it would do to devastate that quality, which is the keystone of everything we are doing.

So the Army made a case yesterday about staying with the constrained budget, and one that is trending down, and I think they did an excellent job in explaining to us what they felt. We realize the impacts on the Army.

We have, I think, an excellent record for staying with their efforts of planning over the next five, six years, and so that is why I am trying to get a response that would look toward what might happen in your professional views if we got some kind of just a rationed-out cut to you, because lots of people are thinking that way.

Secretary GARRETT. We have all testified previously and feel very strongly that the years in which we find ourselves, 1990 and 1991, and the budget on which we are testifying, really is a transitional year.

We are in the process now and will be throughout the spring and into the summer developing a comprehensive five-year plan based on the new base line that will be coming out of the 1991 budget debate. We need that time to plan smartly and not throw people off the train like they were excess baggages.

General GRAY. Another point, that we as a nation must decide upon is how much military power and capability a global power needs along with its political, economic and societal power. In my judgment, that decision has to be made by 1994 or 1995 at the latest. We are going down a trail from which we are not going to be able to recover, and I don't think we will see a spike like we did in the 1980s.

The question is what do you want to "hang out on the shingle" in front of the United States of America? That is, what kind of credible military power is needed to carry out the responsibilities and the needs of democracy?

Mr. McDade. I think the figure that I saw was that we would be down to four percent of the GNP on the current track, the lowest level since before Pearl Harbor. It would be nice if we could reach a consensus in the country to say X percent of GNP is the floor.

Mr. Murtha. Mr. Dicks.

PERSONNEL SECURITY CLEARANCES

Mr. Dicks. Welcome.

Admiral, I want to compliment you on the outstanding job you have done. This will be one of the last times you testify before this committee and I want to say how much we appreciate the outstanding job you have done as Chief of Naval Operations.

Mr. Secretary, as you know, we have experienced an unfortunate string of incidents at Submarine Base Bangor involving personnel intimately involved with the nuclear weapons program. This includes the suicide of a Marine guard on base, Lance Corporal Patrick Jelly; the arrest of a crew member on the USS ALASKA, Tommy Metcalf, on charges of murdering an elderly couple in Bothell, Washington; and the bizarre case of Shyam David Drizpaul, a fire control technician on the USS MICHIGAN.

The Drizpaul case begins with the murder of two Trident crewmen. It then proceeds to the detention of Drizpaul when he returned to the base drunk with a loaded pistol. The pistol was confiscated, but somehow the clip was not. He was released some hours later, after which he stole a car from one of the murder victims, proceeded into Bremerton, and then killed a pawnshop owner and wounded her brother in a dispute over a gun to replace the one confiscated by Bangor security personnel. The next day Drizpaul was found dead in a motel room near Vancouver, Washington.

All these cases raise serious questions about the Navy's program to screen and monitor personnel involved with nuclear weapons to provide a high degree of certainty of their reliability and stability.

Could you please describe for the committee just what procedures the Navy follows in determining whether to grant initial security clearances for personnel involved with nuclear weapons, and what ongoing oversight exists to make sure that they remain psychologically fit for these positions?

All of you can comment on this since it involves both the Marine Corps and the Navy.

Secretary Garrett. I would like the CNO to address that initially.

Admiral Trost. I am personally familiar with the program and have been involved in the personnel reliability program for much of my Naval career. The program itself screens all personnel whose duties in any sense involve the security or the safety or the operation or use of nuclear weapons or systems which could affect those weapons. It consists of a very detailed screening, starting with a record screening to ensure there have been no illnesses of a mental nature or any behavioral problems that would indicate instability or untrustworthiness on the part of an individual.

In addition, it consists of personal interviews with the individuals to ensure that they understand the serious nature of the duties. The program has a follow-on requirement for each command and for the personnel associated with PRP individuals to very carefully observe their behavior and report any aberrant behavior.

In the cases you mentioned, all of those individuals were in the personnel reliability program. Clearly there were failures on the part of these individuals which could perhaps have been detected by others in the chain of command. I can't say that for certain.

In the case of the young Marine Corporal who committed suicide, he was a security guard. One might surmise that someone had indications of a change in his behavior pattern and should have reported it.

In the case of the man arrested for murder of the elderly couple, there was nothing in his prior record of behavior to indicate such a marked variance in his pattern of behavior, but that case has not been concluded.

In the case of Mr. Drizpaul, I would surmise without having seen the investigation that there must have been some indication that would have alerted superiors to his change in behavioral pattern.

We do a lot "after the fact" because we are concerned with whether it is a breakdown in the program or in the execution of the program that is to blame. In this particular case, the guidance that went out immediately from the fleet commander and from headquarters in Washington was to re-review the program to make sure that it was, in fact, adequate to serve its purpose and to ensure it was being executed as intended so that these kinds of cases might be detected before they could happen.

Mr. DICKS. It is my understanding that the personnel reliability program is under review for possible improvements, especially in providing incentives for the reporting of any abnormalities that might be observed by fellow crewmen or officers.

It seems to me that in the Drizpaul case and in the case involving the Marine, that there were clear indications of a change in behavior that could have led someone to conclude that the person was having some severe emotional problems.

It seems to me that that might be the weakness in this program, that there has to be more incentive and effort with the fellow Marines and fellow Navy personnel to realize that their first responsibility is to the ship and to their fellow crewmen, and that if somebody has problems, they have to report that so that the person can be helped.

I understand you are looking into this and trying to see if there are ways to strengthen the program; is that correct?

Admiral TROST. Yes, sir. We have put out information requiring the reaffirmation of the need for awareness on the part of all people throughout the command.

Secretary GARRETT. We keep these programs under constant review. I was part of the PRP for my 20 years of active duty. The program I think is sound, but like all programs it involves the human interface and it can always be improved. We continually review these matters to make sure we stay on top of it.

General GRAY. I would just support what has been said on both sides here. You are right, every time you have, for example, a suicide occur, we go back very carefully. You always wonder, why didn't someone take note of this? Would a word or two have prevented it? We live with that, those of us who are privileged to lead.

I often say, if I could get every leader to ask 15 Marines or Sailors a week--that doesn't seem like too many—"How is it going?" we wouldn't have very much of this kind of challenge.

I think your concerns are right on, and I think we certainly are doing everything we can here to get to the bottom of these kinds of tragedies.

Mr. DICKS. For the record, in the case of Lance Corporal Jelly, a memorandum from the commanding officer of the Strategic Weapons Facility Pacific to the Judge Advocate General on February 23, 1989 states,

> The fact that LCpl Jelly's actions and statements concerning reincarnation, chambering a round in a weapon while on post, and puncturing his body with sharp instruments were not reported to the appropriate level identifies a weakness in the (PRP) program.

I assume you would agree with the commanding officer's assessment that something has to be done in those kinds of situations to bring this to somebody's attention?

General GRAY. I would say it is not so much a weakness of the PRP program. I happen to believe the PRP is a pretty good program, having led people in it for almost 40 years. The weakness here is in leadership. Obviously Marine leadership was lacking. There is only one person responsible for that, and you are addressing your questions to him.

I will go back and see where we are.

[The information follows:]

In this particular case, the Marine in question was screened and certified as PRP reliable 4 months before his suicide. Only a month before, he received suicide prevention training, then went on two weeks leave which ended two days before the suicide. Something obviously happened that the command was unaware of which triggered this unforeseen tragedy. We always investigate every serious occurrence like this to see how we can better implement the program. Here is what we know.

LCpl Jelly had complained to some of his fellow guards that he was dissatisfied with this assignment, wanted to be posted in the Fleet Marine Force and that they had individually observed one of the strange behaviors you've just discussed. However, no fellow Marine guard knew of more than one of those behaviors, so none were reported up the chain of command. If his superiors had known of these behaviors, then LCpl Jelly would have been at least temporarily decertified from the PRP position. This was a weakness in the program—that is having junior Marines report any unusual behavior by their fellow Marines to the chain of command, which was not being done at the time—and we've moved to correct it.

For the record, I'd like to note our improvement in the Personnel Reliability Program (PRP). Over the last 4 years, the number of Marines on the PRP program has decreased from 4,826 to 3,708 (approx. 23% decrease). Permanent decertification of people in the PRP who are no longer reliable has increased 50% (from 200 in 1986 to 299 in 1989). The number of Critical PRP positions—those that are more likely to cause a serious incident—has dropped by 50% (738 in 1986 to 393 in 1989). In the particular case of LCpl Jelly in Bangor, only hindsight could weave an "audit trail" of suicidal overtures which the command would have understood as leading to a potential suicide. The PRP program is sound, and we're doing our best to make it even better.

Mr. DICKS. Isn't there, Admiral, an annual review that is done of each ship, of each submarine. Don't they go through every individual file?

Admiral TROST. That is correct. We do annual reviews of the competence and capability of each ship to properly and safely carry out its duties as required, and that involves a review of the personnel reliability program on the ship, and of its execution.

Mr. DICKS. In the case of Drizpaul, one of the things that caused me concern after I visited with the base commander, is that at the Trident base there isn't a brig. In this case, it seems to me that when a person comes on the base, he is drunk and there is a gun on the seat of the car and there is a bullet in the chamber, that that person should not have been released several hours after he had been interrogated, that he should have been locked up.

In Washington, if a person is drunk they have to go to jail. I understand that is the problem here, and I am glad that the Chairman of the Military Construction Subcommittee is here, not that he is responsible, but he may be able to help us.

One of the problems we have had is getting brigs on these military installations, and in this case, not having that facility, the person was free and he went downtown and killed two additional people. In my community, they feel that this person should have been locked up for some period of time.

Admiral, shouldn't there have been a facility somewhere in the county that this person should have been put into?

Admiral TROST. It certainly would have been helpful. I believe the individual was turned over to his command duty officer who directed him to go to bed, but there was no restraint involved as there should have been.

In the early 1980s, we instituted a program to upgrade brig facilities, many of which were quite old and considered hazardous to the people who were incarcerated there. We found great difficulty in making the improvements for a number of reasons. The dollars didn't always compete successfully. We found interest in consolidation of brig facilities, so if there was one already in the area we were directed not to duplicate that capability.

We have had some success in recent years in improving facilities and in adding facilities in areas where the need was very obvious. I expect that the Kitsap County area has suffered because we have had so few problems there.

NUCLEAR WEAPONS SECURING

Mr. DICKS. Bremerton is my home town and over the 50 years that that encompasses, the Navy has had an outstanding reputation in the county. This has not been something that has been usual or normal in our community, so it shocked the community.

Also, because of the sensitivity of this Drizpaul case, I think it is important. I notice that there was a statement made that there was some concern in the community that there might be a national security or espionage problem here.

Based on the investigation that we have to this point, is there any indication that we have an espionage or national security problem at the Trident base at Bangor?

Admiral TROST. There is none in anything I have seen. The investigation is ongoing. The only such allegations I have seen have

been in the media as a result of comments made by the Drizpaul family.

Mr. MURTHA. Did any of these people deal with nuclear weapons at all?

Admiral TROST. I don't remember their specific rates. They were involved in the sense that they would operate equipment on the submarine which supported the submarine's overall platform capability.

Mr. MURTHA. So they could be involved indirectly, in other words providing security.

Admiral TROST. The Marine was involved in base security and could have been——

General GRAY. No. The base security, yes, and PRP, yes. But, the Marines who provide security for all nuclear weapons, arming and rearming or refueling around the world—incidentally, we do that wherever they are—those are specially selected fleet inter-security antiterrorist personnel. These personnel are subjected to even a higher degree of reliability.

Mr. MURTHA. So this program you are talking about, there is an additional selection process they have to go through if they are involved with nuclear weapons?

General GRAY. Yes, sir. We have a special company in each of the security forces battalions and they deploy around the world to provide security for nuclear weapons whenever a requirement comes up. It is the same group that also deployed to Panama and the Philippines, the Persian Gulf, et cetera.

Mr. MURTHA. Is this true in the Navy?

Admiral TROST. It is. I understand Mr. Drizpaul was a fire control technician, and could have been involved either with missile fire control or other weapon systems fire control, and the gentleman accused of the two murders was a machinist's mate who would have been involved either in the operation of the nuclear propulsion plant or of auxiliary systems which supported the ship's operations.

Mr. MURTHA. Are you saying that the individual involved was involved with the fire control of nuclear weapons?

Admiral TROST. He could have been.

Mr. MURTHA. Would he not receive any additional training?

Admiral TROST. He receives a lot of additional training. He gets checked on his reliability and should have been detected if he in fact was displaying unusual behavior.

Mr. DICKS. They have periodic random drug tests, too, is that correct?

Admiral TROST. Yes. This individual was from the off crew of one of the missile ships operating at sea.

Mr. MURTHA. Was this individual involved with firing nuclear weapons?

Admiral TROST. No. But he could have been involved with the operation and maintenance of equipment, including that involved in the overall system. But there are so many checks and balances in the access to, and the operation of, systems that could fire nuclear weapons that we can guarantee you that that is not an issue of concern.

Mr. MURTHA. Mr. Hefner, I will recognize you next since your name was brought up about the brigs here.

Mr. HEFNER. Thank you.

Admiral, General and Mr. Secretary I think we are going to try to have an add-on for a brig at Bremerton. We may have to take the funds from day care or something.

Mr. DICKS. Don't do that, Mr. Chairman.

NAVAL BASES IN THE PHILIPPINES

Mr. HEFNER. There has been a lot of press recently about our position in the Philippines, and Secretary Cheney has been quoted as saying we are prepared to abandon our bases. Now, I don't know how much of this is rhetoric or who is going to blink first, but where would the Navy go if we were to give up Subic Bay?

Admiral TROST. We looked at Subic Bay and the Clark complex sort of in one breath, since they provide mutual support to all of our military. We clearly couldn't find another place that has the geostrategic location or the in-place investment in facilities that we have at Subic Bay.

We have done a lot of "what if" studies over more than a decade looking at fall-back positions, and what we would do is increase utilization of other activities to which we have access such as those we own in Guam, which is a U.S. territory. We have been offered access for repair and logistic support publicly by Singapore and probably would receive such offers from other countries. We would rely much more heavily on our inherent capability to provide organic support of our units at sea from other logistic support platforms in order to sustain them in an operational status in the western Pacific and the Indian Ocean.

Mr. HEFNER. I realize you would have to have negotiations for that. About how long do you think it would take to move out and relocate, and what would be the cost?

Admiral TROST. That would be a matter of personal speculation. I think that anything shorter than a few years to remove capabilities that we would want to remove from those facilities would probably be quite a flail.

Mr. HEFNER. Since we are dealing with hypothetical situations, what do you think will happen in the Philippines? Do you think we will move from the Philippines?

Admiral TROST. That is a hypothetical question that I would hate to answer. Anything I would say on or off the record would be mistaken.

Mr. HEFNER. That would be off the record.

Mr. MURTHA. I think you should give us some idea of what the impact would be if we had to move. I realize that is part of the sensitivity of the negotiations, they are talking seriously about reducing the carrier force of the Navy and certainly if we lose access to the Philippines, we are going to have to have the 14 carriers.

Admiral TROST. I would agree that the prospect of continued reduction in access to overseas bases in the Philippines and in other parts of the world, places an increased premium on the flexibility and mobility of maritime forces. To reduce maritime forces while

this base reduction remains a possibility would, I think, be a grave mistake.

ANTI-SUBMARINE WARFARE CAPABILITY

Mr. HEFNER. At the risk of sounding like we are bashing the Philippines, to me this doesn't seem like a very good deal for the Philippines for us to leave. It seems to me there is a lot of posturing going on.

Admiral Trost, I see from your statement that with all the changes that are occurring in the world, ASW is still one of your top priorities. Has it increased or decreased in importance?

Admiral TROST. Well, in terms of priority, it has stayed where it is our top war fighting priority. The reasons are two-fold. If we go back to that threat capability which continues to exist in the Soviet military, something which we cannot ignore, we see a continued improvement in the forces available—some reduction quantitatively, but continued qualitative improvement.

We also see a sustained building rate of all classes of submarines that more than doubles anything we have done in our best shipbuilding years recently. That says that as a hedge against the future we have to continue to insure a technological edge, since we have quantitatively inferior forces.

Also as we face the future and recognize the continuing utility of forward based naval forces in meeting U.S. political and economic commitments, we recognize the importance of our own ASW capability because today there are more than 250 submarines, many of them front line, in the hands of countries other than the Soviet Union who could potentially threaten our forces.

Mr. HEFNER. I agree with you. There is one area I have been interested in that involves the signal processor that is used to sort out the noise and identify the enemy submarines. The Navy has established EMSP as the processor for the ASW systems. Last year the Congress provided funds for putting EMSP into the SQQ-89 basic surface combat system.

Can you tell the committee how that is going? Are funds included to continue this work?

Secretary GARRETT. The system is a superbly capable system against most existing threats. We intend to take $15 million of the 1989 funds to accelerate the introduction of the advanced video processor and the $30 million in 1990 is being used to integrate the enhanced modular signal processor into the basic SQQ and procure four systems.

The total effort will cost approximately $200 million.

Mr. HEFNER. But are you committed to this program?

Secretary GARRETT. We are moving forward with that program, yes, sir.

Mr. HEFNER. If you would, as you develop your plan, I would like you to keep the committee and staff and my office advised as to what we are doing because we have had some real anxious moments about this. So I would like for you to do that if you would.

Secretary GARRETT. I have had some anxious moments, too. As you know, the program is one that we are carefully managing. It is one of those where it is hard to stay in front of the technology. The

technology moves so fast. But as I indicated to you, it is not going to be easy for us, so we will have to work very closely together if we are to succeed in this endeavor.

Mr. HEFNER. If you would, keep us posted.

Secretary GARRETT. I will be happy to.

MARINE CORPS OVER-THE-HORIZON CAPABILITY

Mr. HEFNER. General Gray, there has been a lot of talk over the last couple of years about the Marines' need to fight over the horizon. How do the Marines fit into that scenario?

General GRAY. They tie right in. We, for example, have in the R&D portion of the budget funding for the high speed amphibious program. This is a replacement for the current assault amphibious vehicle. We have developed many through the years, starting with the Alligator of World War II. This is the 15th upgrade of that idea. You are limited by physics to a speed of eight to ten knots in the water.

We have a long-standing concept in the Marine Corps, that is to acquire an amphibious vehicle that operates on top of the water. We shelved that plan, in 1979, to ensure that we had funding for the landing craft air cushion which is in the fleet today.

We have now brought back that program. I am pleased to report to you that two months ago the demonstrator model got on top of the water, did 29 knots and did what the engineers said it could not do; that was, turn. That is one program that contributes to the over-the-horizon capability.

The third element of our over-the-horizon effort is the VSTOL. That is, as you know, a program called the V-22. Our over-the-horizon command and control integrated intelligence capability is in place. We have continued to improve that. We come today from near, over the horizon. Indeed, we came from over the horizon to bring people out of Saigon in 1975.

This is not a new idea. We were 54 miles out at sea when we evacuated Saigon. But, we have to have this capability due to precision guided munitions. We have to be able to do that in order to open the battle field, disrupt lines of communication, and operate small independent action forces over a wide area.

Assuming that the high speed amphibian will come to fruition at the end of this century, the remaining key will be the air portion, either, the V-22 or an all service type helicopter capability. If the latter is what we have we will have to compensate through tactics and operational concepts; but, it certainly will not be the same.

REPROGRAMMINGS AND DEFERRALS

Mr. HEFNER. In your personal view, are there any major omissions in this budget?

General GRAY. The fiscal year 1991 budget supports your Marine Corps in all areas of mission accomplishment. It is lean, but we can do what has to be done. We will continue to do that. We have spent the money wisely. I am concerned about the "hands up", if you will, on the Hill with respect to the reprogramming request. That is another topic, granted. But if we do not get that request honored, we are going to be required to reduce the strength of the

Navy and Marine Corps rapidly this spring and summer. That is going to have a major impact on our readiness.

There is one program that is not in this budget that we are looking at very carefully now; that is the light tank. I have felt for many years that in most of the world where we are going to have to fight, the main battle tank of the future should be a light tank. We had, with the assistance of Congress, researched the mobile protective weapons system in the late 1970's and early 1980's. We developed a number of concepts but we were never funded; thus, we never saw those to fruition.

We are revisiting those concepts now. There is general Army interest in this area. I have recommended that the Marines stay in the lead this time, with Army support; and perhaps we can field a light tank that will be useful in the years ahead.

Mr. MURTHA. The gentleman's time has expired.

Mr. HEFNER. I have some other questions for the record.

Thank you very much, Mr. Chairman.

[CLERK'S NOTE.—Questions submitted by Mr. Hefner and the answers thereto follow:]

ENHANCED MODULAR SIGNAL PROCESSOR

Question. Are funds included in the FY 1991 budget to continue this work?

Answer. Yes. The Enhanced Modular Signal Processor (AN/UYS-2) is fully funded in FY 1991.

Question. Would you provide for the record your plan, with milestones, to implement this upgrade?

Answer. Milestone IIIA, Approval for Limited Rate Initial Production (ALRIP), for the Standard Electronic Module Type-B (SEM-B) Variant, was granted in March, 1990.

Milestone IIIB, ALRIP for the SEM-E Variant of EMSP is planned for fourth quarter, FY 1991.

Milestone IIIC, Approval for Full Rate Production (AFRP), for the SEM-E Variant is planned for third quarter, FY 1992. Initial Operational Capability (IOC) for the SEM-B Variant is planned for first quarter, FY 1993.

IOC for the SEM-E Variant is planned for second quarter, FY 1994.

AIRBORNE SELF PROTECTION JAMMER

Question. Mr. Secretary one program that the Navy and Air Force have been jointly involved in is ASPJ. Since the Air Force has chosen to terminate their involvement what effect has that had on the Navy program? Have you been able to determine what if any additional cost may be involved? Have you looked at the option the Air Force is pursuing? Why have you chosen to stay with ASPJ instead of the Air Force alternative?

Answer. The withdrawal of the Air Force has required the Navy to review the acquisition strategy for the program. An option under consideration is the down select to a single contractor in a future production lot. Preliminary analysis indicates that if down selecting to single contractor is accomplished for a Navy-only program, the cost will not differ significantly from the original pro-

gram, with cost growth to the Navy estimated to be less than 10 percent. The Navy is monitoring the Air Force's search for an option to ASPJ but is not aware that an alternative has been selected. It is our understanding that several systems are being evaluated, none of which are as capable as ASPJ. ASPJ is the only system with the capability to counter the modern threat of the 1990s and beyond.

PHOENIX MISSILE

Question. Could you share your rationale for terminating the Phoenix missile program?

Answer. Phoenix was terminated after considering the risks associated with a lowered inventory and the fiscal realities of fielding the follow-on long range missile, AAAM, required to meet the threat in the next century.

Question. When is it's replacement the AAAM available?

Answer. AAAM should be available in the ——— time frame.

Question. Do you have other means of providing long range air-to-air protection for our carrier battle groups?

Answer. Phoenix is available in sufficient numbers to fill our carriers. Medium and short range missiles are also used to provide air-to-air protection.

Question. For the record could you provide the Acquisition Objective for the Phoenix over the past three years and what the inventory will be if we terminate as proposed?

Answer. Navy procurement is based on a programming objective which is an output of our non-nuclear ordnance requirement (NNOR) process. All of our air-to-air weapons requirements are derived via this same methodology. Phoenix was brought fully under the NNOR process in FY 1990, establishing its current requirement of ——— missiles. For fiscal years 1988 through 1990, the Phoenix programming objectives did vary ———. We will have ——— AIM-54C missiles in the inventory at program end.

FORCE STRUCTURE

Question. What changes do you expect in force levels over the next 3-5 years? How much of that do you think will come from overseas? Were those changes considered in the Base Closure list currently before us? Do you expect to keep 14 Carrier Battle Groups in the force? What would the Navy have to give up to do that?

Answer. We cannot definitively state what is expected in future force levels until we complete the planning process. We are looking at our alternatives from a number of viewpoints to arrive at the best balance and mix. Force structure was a consideration in developing the Base Closure list and remains a very important consideration as we proceed through the planning process.

MARINE CORPS MODERNIZATION PROGRAM

Question. General Gray, I see where the Marines are no longer requesting either the M-1 tank or the V-22 aircraft. What is left in your modernization program?

Answer. Major initiatives within our FY 1991 ground modernization program include the continued enhanced combat readiness of the Advanced Amphibious Assault Vehicle (AAV7A1); continued buys for the Digital Communications backbone which includes the Unit Level Circuit Switch (ULCS), Troposcatter Radio (AN/TRC-170) and Digital Wideband Transmission System Line-of-Sight Radio Subsystem (AN/MRC-142); MK-19 40mm machine gun; Tactical Air Operations Module (TAOM); and Tube-Launched, Wire-Guided, Optically-Tracked Missile (TOW). Major initiatives within our FY 1991 aviation modernization program include the F/A-18, AV-8B, CH-53E and various modifications, to include the AH-1/UH-1, CH-46, KC-130 and OV-10.

Question. I know the Corps is lean but I sometimes wonder if the Department tries to keep you too lean in the budget process. Do you think your needs are fairly represented in this budget?

Answer. Yes. We have revisited our FY 1991 budget estimate no less than three times during the last 14 months through a series of budget reviews at the Marine Corps, Department of the Navy and Office of the Secretary of Defense levels. These budget reviews help ensure that our most critical requirements remain adequately supported.

TANKER EXPLOSION IN THE PERSIAN GULF

Question. There was a news report this morning about a tanker explosion in the Persian Gulf. I understand it was a U.S. flagged tanker. Can you tell the committee about it?

Answer. On February 23, 1990, while on patrol in the southern end of the Persian Gulf, USS SIMPSON (FGG 56) and USS DEWEY (DDG 45) rendered assistance to US Flagged Motor Vessel (MV) SURF CITY which had just suffered a catastrophic internal explosion. USS SIMPSON, which was monitoring the SURF CITY's transit, was within 3 NM and immediately proceeded to the stricken vessel. USS SIMPSON assumed duty as on-scene commander, reported the catastrophe, and closed SURF CITY, rescuing 25 of its 27 crewmembers (Master and First Mate were lost in the explosion/fire). With SURF CITY a raging inferno, USS SIMPSON remained on scene and continued to search for survivors and monitor fire-fighting/salvage progress. USS SIMPSON's helo airlifted two seriously injured SURF CITY crewmen to emergency medical treatment in Dubai, U.A.E. Several attempts by salvage ships to extinguish fires on SURF CITY were unsuccessful due to the intensity of the fire being fueled by SURF CITY's cargo of naphtha and gas oil. Salvage Master's intentions are to tow SURF CITY to deep water outside the Persian Gulf in the event the fire cannot be extinguished and SURF CITY begins to break up.

Question. Was it a mine or an accident on board?

Answer. With regard to what caused this disaster, i.e., mine or accident, preliminary indications based on the location of the explosion and fire indicate an accident is most likely the cause of the explosion and fire. A maritime investigation team is en route to SURF CITY and will make a final determination as to cause of the disaster in their official accident/incident investigation report.

[CLERK'S NOTE.—End of questions submitted by Mr. Hefner.]

MILITARY PERSONNEL REPROGRAMMING REQUESTS

Mr. MURTHA. Let me comment on the reprogramming requests. You mentioned the personnel reprogramming. The committee is upset about the sources used for this reprogramming. We don't appreciate the Defense Department deferring programs we agreed to last year and we don't appreciate reprogramming money out of programs that the committee thinks are very important.

We realize you make your best judgment but we have some concerns about the sources, and we are looking at them right now. Just as soon as we come up with an answer, we will try to handle those reprogrammings expeditiously.

Secretary GARRETT. We understand, Mr. Chairman. We are more than happy to work with you and your staff to address those issues.

SEALIFT AND V-22 HELICOPTER

Mr. MURTHA. Two of the proposed deferrals, sealift and V-22, don't appear to make sense. It looks to me like if you take sealift funding out of the budget and you are going to deploy two MEF's with 20,000 troops per MEF, I don't think you have enough sealift assets. And the type of mission that you have with the H-60's and H-53's, it seems to me is more expensive in the long run than the V-22's would be, isn't that accurate?

General GRAY. Yes, Mr. Chairman, if you go by the current requirements and numbers. With respect to the amphibious sealift and our maritime preposition capability, and its associated air capability, our ability to get Marine forces to wherever they have to go on the globe, today is pretty good; and is maintained in the budget submission.

Mr. MURTHA. In other words, you have the sealift available to get your two expeditionary forces simultaneously to any location where you might have a threat. Is that what you are saying?

General GRAY. Yes, essentially. That would include the capability for the airlift to marry up with the maritime prepositioned ships.

Mr. MURTHA. And you are not mobilizing any private ships?

General GRAY. No, we do not have to do that today nor would we for any regional contingency. There is no mobilization requirement there. The V-22 issue versus the helicopters as the Chairman knows, is a different issue altogether. I think the concept was well supported and well understood by the Secretary of Defense. He deemed it an affordability issue.

Mr. MURTHA. But times have changed. The threat in Europe has declined substantially. Now we are talking about an entirely different threat.

General GRAY. That is right. I think we should take a look at the helicopters in the armed forces today. I personally believe that the helicopters in the armed forces today, indeed in each of the Services, will come to the end of a useful life in this decade.

I think they have to be replaced. That is the way to come to terms with the affordability issue. If the national decision is made to have an all-helicopter force for the years 2000 to 2030, then we should, together, build the best, most advanced helicopters we can. If the decision is made to go with advanced technology, the afford-

ability issue can be driven down if everybody works toward a common purpose.

That is the overview as I see it. At some point, we need to replace Army and Air Force helicopters, the CH-47's, Apaches and the Black Hawks. We need to replace the vertical replenishment capability in the Navy. We need a new platform for anti-submarine warfare, in the future.

We cannot properly infiltrate or exfiltrate special operations forces today, nor Marine special operations capable forces. We are all aware of the high requirement to replace our medium lift assault capability. That is how I see this coming. I would hope that, collectively, we can come to grips with this and do what is the best for the nation.

DEFERRALS

Mr. AUCOIN. If the Chairman would yield. The Chairman mentioned, as he has in the past, the problem of reprogrammings out of congressional add-ons and the problem of deferrals that we have seen. As I know the Chairman, I am sure that he has conveyed in even sterner terms than he has in these public sessions, what this committee thinks about the actions that have been taken.

But I don't think we can say too often and in public, for the public record, to the Department of Defense and all of its component parts that the sweeping deferrals we have seen on congressional add-ons, and it is still a three-branch government here, the sweeping deferrals in the reprogramming request add up to a line item approach to the budget in my view.

I cannot think of a better way to invite war on both ends of Pennsylvania Avenue than a continuation of what we have just seen. I hope it doesn't continue.

Mr. MURTHA. If the deferrals are turned down, that money has to come out of this year's budget. It makes it more difficult. We had an agreement between the House, Senate and the White House. I know it is not your responsibility to send those deferrals over and we certainly have conveyed the strong concern of this committee to the Defense Department.

Mr. Young.

V-22 OSPREY

Mr. YOUNG. Thank you, Mr. Chairman.

Admiral, General, welcome to the committee. I want to compliment you for the strong effort that you are making to comply with the budgetary restraints that the Congress has placed upon all of us through the budget process and the Gramm-Rudman-Hollings sequestration problems, et cetera.

I also recognize the political situation with the Iron Curtain melting away and freedom breaking out all over. We were very impressed with President Havel of Czechoslovakia yesterday and his comments. You are doing a good job facing these issues and providing a strong national defense, maybe not as much as some others might like but you are finding a good middle road.

I have a couple of problems that are bothering me as we see this new world develop. I am happy to see it. I am as excited as anyone

else. I think the American political leadership as well as American industry and our military leaders deserve a lot of credit for holding out for freedom so long that the rest of the world got the message.

We are now spending less money. We are going to modernize our forces, make it possible for us to get more for the dollar, get more out of what we have. In our hearings with the Secretary and the Chief of the Air Force several days ago, we were told that this is going to be the last year for procurement of the F-15, which is an unusually good fighter. And we are going to have the ATF in the inventory but that is at least six years away.

The Navy has the ATA, the A-12. It will be several years at least before that will go into the inventory. Yesterday the Army told us that they are going to cancel two very good helicopter programs, the Apache and AHIP because they plan to replace that with the LHX. I am not sure that is off the drawing board yet.

But anyway, all the services I have mentioned are giving up today in order to modernize for tomorrow. I think the modernization part of it is a good idea. Maybe I would not give up as quickly, but I support the modernization. Then we get to the Marine Corps. That mission is where we have more of a potential to use, the light quick movement as opposed to an all out war, to use low intensity conflict against terroristic activity.

I don't see any modernization in the Marine Corps in their ability to move their people more securely and faster. I guess you suspect I am getting to the subject of the V-22. I think probably in the confines of your own minds you think the V-22 is a super piece of equipment and wish we had the money to buy it. One of the problems that we face with the V-22 which is strongly supported in Congress, as you are well aware, is the fact that the budget restraints are requiring the Secretary of Defense to terminate the program.

But I am not sure the Secretary of Defense has the whole story, I will be honest with you. I talked with him in this very room not too long ago and asked him how much time he had spent talking with the people who will use the V-22. He admitted it was not a very long time.

So what I want to do today is just to rehash how the V-22 would enhance the mission of the United States Marine Corps. How the V-22 would make it possible to move more Marines and move them quicker and in a more secure fashion so that they could do their job better as opposed to using the basically obsolete helicopter they would use now for this medium lift mission.

Is that a fair subject for you to comment on?

Secretary GARRETT. I am happy to comment on it. Going back to what General Gray said earlier, as you know, there is a cost effectiveness analysis ongoing which we anticipate will be forthcoming sometime in mid-spring. I think some of the questions propounded here today relative to the cost of one system vis-a-vis the other will be thoroughly wrung out in that process and we will have fairly definitive answers.

There is no question, certainly not in my mind and I don't think there is in Secretary Cheney's mind, that this provides a capability that is very desirable. We worked very hard on the program for a number of years as you know. We are in the final stages of the

R&D on this particular platform. It provides us the capability to carry approximately 24 troops from over the horizon at great distance and increased speed which, as General Gray points out to me often, we have with the platform that we employ today.

That having been said, as you readily point out and acknowledge, we struggled very hard to prioritize everything within the Navy/Marine Corps budget and we find the program, at this juncture in time, is not affordable.

There are a lot of requirements that we have, as you all know. There are many requirements that we feel are viable, necessary requirements as we look out to the year 2000 and 2010. Unfortunately, given the direction in which we are going today, I think we are on our sixth year of negative real growth in the defense budget, we cannot make everyting fit.

So we take the position that we will place our priorities where we believe we will get the greatest return. We take the position individually and collectively that we should put our money, and this applies in a broader concept, in areas where we get appreciation.

That gets back to the modernization. That is part of it. But we simply cannot modernize everything.

Mr. YOUNG. I certainly understand that. I don't disagree. I recognize that we are into a very expensive modernization program with the Air Force ATF, with the Navy A-12 and with the Army LHX. I recognize that. Do we have any disagreement on the potential use of our force, that it will probably be used in a low intensity type conflict rather than all out war?

Secretary GARRETT. I think we have no disagreement on its anticipated deployment. I would say, if it is low intensity conflict, if you had that capability, you would use it. You would use it wherever it most benefited you. That would be, I think, in a large number of scenarios where I could envision using that kind of capability.

Again, as I struggle with the budget and have been for the last four years, you know we have canceled a number of Navy programs. Take the ATA that is replacing an aging A-6 airframe that was in the fleet when I came out of flight training in 1963. It is almost 30 years old. We have young men flying the same aircraft in the Navy today that their fathers flew 30 years ago. We feel the medium attack requirement we have in the Navy is a very very important requirement.

That is not to say the V-22 was not. It was. But if you look across the spectrum, we have canceled the F-14D because of affordability. We have canceled A-6F because of affordability. We never got the A-6G because of affordability. We have canceled a number of programs in the Navy and Marine Corps.

You are right, it is very difficult.

Mr. YOUNG. I am not disagreeing with you on any of this except for the final decision. How old is the helicopter the V-22 would replace?

Secretary GARRETT. She is old. She has been around for a good long time.

Mr. MURTHA. And much more expensive to operate.

Secretary GARRETT. Yes, sir, the maintenance requirements are, as for many of our air frames, very, very expensive.

Mr. YOUNG. Mr. Chairman, I would like to create a scenario. I would like to direct this to General Gray.

General, if you could assume that Chairman Murtha was the Secretary of Defense and I was Dr. Chu and just the three of us were sitting in a room with you, what would you tell us about the real need of the Marine Corps to do their mission versus the 26-year old helicopter that is very expensive to operate?

General GRAY. I would like to answer that in detail for the record. That is a tough question that needs a long answer. Part of the problem is that there have been too many short answers that have not gone into depth.

Given that scenario, Mr. Secretary and Dr. Chu, I think we have to take a new look at where we are today and where we must go in the future. We have spent in my judgment, too much time talking about a Marine Corps only requirement. You have used the term limited mission. You got advice from the Chairman and the Vice Chairman a year or two ago along those lines.

The operational requirements of the future are much broader than that. All of the services need, during this decade, to replace their helicopter capability. I think it is time to come to grips with the issue. Do we want to replace the helicopter of today, which we have in all the Services, with a new, upgraded helicopter, using whatever advanced technology we can apply? Or, do we want to pursue a new kind of technology for the future, understanding that our young warriors will be flying your decision into the year 2030 and beyond?

I would say, within that construct, that you are at the upper boundary of what can be done with helicopter technology. Yes, you can get a little faster; yes, you can carry a little more; and yes, you can use composite materials. But, from the standpoint of physics, we have nearly run out of room. What we are flying today is 1960's technology.

You can compete against other techniques and ideas, but you are basically at the limit in the area of helicopters. That choice is the key to driving the affordability down.

I made a mistake in the last couple of years. If I were smarter, I would have "lowered the ramp" and "played games." I came from the field with the idea that I should express operational requirements and "lay it on the line," and tell people what is needed. I assumed the Commandant would have credibility when talking about "coming from the sea", that is what we do. Instead, I found out that others who never come from the sea have more credibility than I do. I should have known that. So, I am a couple of years smarter.

Mr. MURTHA. You are saying bureaucrats at the Pentagon have more knowledge?

General GRAY. I am saying people in and out of uniform apparently have more knowledge about coming from the sea than I do. So, I did not "do it" as well as I should have. As you can probably tell, it is not an emotional topic with me. Back on the scenario, I would say we need to look at this. If we are going to go into the year 2000 and beyond with helicopters, let's build the best.

The cost of these helicopters is primarily in the avionics and associated mission equipment packages. That is a requirement, no

matter what decision you make. You have to have the avionics and other systems to expand the night vision capability, or you will not survive.

That is key. That is going to mean that if we go in the helicopter configuration, that your Marines have a right to go ashore in the best kind of helicopters we can build. I will not sign up to go ashore with helicopters with less avionics in the aircraft than are in some of the Army products.

If you want new technology, the tilt rotor is not the only one; but it is a promising one. We ought to evaluate available technologies and have a truly decent alternative for the year 2030, rather than the helicopters we use today. It is a national requirement. It is not just the Services requirement.

This kind of capability is needed by drug enforcement agencies, as well as other kinds of operations, which require the ability to operate from small airfields.

Finally, the tilt rotor has enormous commercial potential; but, I am not prepared to discuss this scenario in detail.

Mr. YOUNG. General, I appreciate your offer to expand on this for the record. I hope you will really expand on it. Tell us about the life-saving feature of moving a Marine on shore in a hostile situation to over the horizon in this type of aircraft.

General GRAY. You have a great deal more survivability built into the over the horizon capability. This goes beyond the aircraft and its crews and the Marines. It opens up a whole new avenue of tactics and techniques, which are going to get the mission accomplished quicker and at less cost in terms of warriors.

Mr. YOUNG. Meaning lives?

General GRAY. That is right?

[The information follows:]

The CH-46 began its service in the mid 1960s, using technology from the 1950s. At that time it was a significant improvement over its predecessor, the CH-34. Shortly after its introduction, the CH-46 began its long service in Vietnam, and the aircraft was instrumental in our development of vertical envelopment. We learned the hard way, though, that the CH-46 was a vulnerable aircraft. The design did not incorporate subsystem redundancy, ballistic tolerance, nor crash protection for passengers and crewmembers.

Consequently, the aircraft could be brought down by small arms and crew-served weapons if the crew or critical components were hit. Rocket propelled grenades or hand grenades that found the CH-46 within range had catastrophic results. To counter that threat, we flew at higher altitudes that kept us out of small arms range. We also moved more toward night operations in an effort to deprive the enemy of his primary aiming device—the unaided eye.

The increase in night operations had advantages and disadvantages. Night operations did reduce the loses to small arms fire, but the number of non-combat losses began to rise. Our aircraft were not equipped for flying in a hostile environment at night or in adverse weather conditions. Aircraft instrumentation for night operations was rudimentary, navigation was dependent upon unreliable paper maps, and we did not yet have night vision devices for aircrews.

The introduction of heat seeking missiles and radar directed weapons added a new dimension to the threat, making Vietnam one of the best weapons testing grounds since World War II. Since then, we have made only marginal improvements in the capabilities of our helicopters, and most of those improvements have been through add-on equipment. The technology of the aircraft itself has not changed.

I should add here that most of the limitations and vulnerabilities I have been discussing are true for all Vietnam era helicopters. The technology of helicopters, in general, imposed certain restrictions that could not be overcome by the addition of "black boxes" alone. These problems were not unique to the Marines. The Army,

Navy, and Air Force were on that same battlefield and suffered from the same problems.

In all, the United States lost thousands of helicopters, not because they were poorly constructed or poorly designed, but because helicopter technology could not keep pace with the rapidly changing threat. In context, though, Vietnam was the first time we had used helicopters in a combat role, and we learned some valuable lessons with regard to helicopter employment.

We have a better appreciation today for what is required on the modern battlefield. I use the term "battlefield" in its broadest sense because recent events have demonstrated that future conflict will not be confined to the conventions of the past. The spread of terrorism, civil unrest, and drug trafficking are just a few examples of the changing nature of armed conflict. The increasing proliferation of sophisticated weaponry adds yet another dimension to the problem.

I don't need to list all of the trouble spots in the world today nor enumerate the long list of weapons systems that can be brought to bear against our helicopters with devastating effect. One has only to recall the Soviet experience in Afghanistan to get an appreciation for that. Helicopter operations, to be successful against modern weapons, must follow procedures that are different from those of the past. We now must have the capability to fly low, fast, at night, and in adverse weather to survive. And we must be able to navigate with pinpoint accuracy under those conditions.

Yet we are, today, operating the same generation of helicopters that we used in Vietnam and that the Soviets used in Afghanistan. We suffer from technological mismatch between yesterday's helicopters and today's or tomorrow's weapons systems. We relearned that lesson most recently in Grenada and in Panama where small arms brought down some of our helicopters.

We cannot expect to prevent all losses, but we should make every reasonable effort to reduce our losses to a minimum. Additionally, the services need to take a close look at systems that can perform a wide range of missions, such as those enumerated by OASD PA&E in 1984. The Nation has the technology at hand to produce a modern technology aircraft that meets all these requirements, we need to put that technology into practice, and the V-22 program was designed to do just that.

Mr. YOUNG. My final question, ATF is six years away. LHX is who knows how far away. ATA ——— away anyway. I support all these programs but they are going to have problems in the system. We know that. You don't build a new system without having one problem or another. What is the status of the V-22 today as far as technical problems, what kind of tests have there been?

General GRAY. It is pretty much on schedule. There have been a few discrepancies along the way; but, all of them have been easy to resolve. There are four aircraft going through the various tests. I think the Chairman went down and tried to fly.

Mr. MURTHA. Yes, I was impressed by the few errors and problems that you have.

General GRAY. The test program continues as we hoped it would.

Mr. MURTHA. Mr. AuCoin.

INFANTRY ANTI-TANK WEAPON

Mr. AUCOIN. I am glad the Chairman is going to expand his views on the V-22.

General, do you support the budget submission?

General GRAY. Yes.

Mr. AUCOIN. Let me ask a question on the infantry anti-tank programs that you and I have discussed, and the Army has testified about.

The Army testified yesterday on the AAWS-M program. There will be an effort to discuss some kind of a competition between a weapon system called the Bofers Bill and the Dragon II, as some

kind of a fall-back in case the AAWS–M program runs into a technological glitch.

Very briefly, will you state for the record the Marine Corps position on the Bofers Bill.

General GRAY. It is my military judgment that these tests are a waste of time and money.

I will be glad to expand for the record.

[The information follows:]

The Marine Corps has approximately 10,000 Dragon I and 11,000 Dragon II missiles on hand. This should meet our training requirements through the year 1996. Any additional system would be too expensive for the short term benefit. The AAWS–M will be procured and delivered in Fiscal Year 1993. The Marine Corps cannot afford an upgraded interim anti-tank system to replace the Dragon II for 36 months or less. Hence, the Bofers Bill competition "shoot-off" would be an ill advised use of Marine Corps Research and Development funds. An additional concern is the increased manpower required for any other anti-tank system.

MARITIME STRATEGY

Mr. AUCOIN. Admiral Trost, I want to say as you are coming before the committee in the final months of your career in the Navy, what a pleasure it has been to work with you, and sometimes against you, but it has always been an encounter that I have treated with a great deal of respect.

I want you to know how high a regard I have for you and the services you have given to the Navy and to the country.

I want to ask a couple of questions that are a little broader based. It may have been in your testimony, it was referenced a couple or three times to America as an island nation.

That almost seemed to be a term of art that you wanted this committee to focus on, what our capabilities need to be as we face a future with an enormous change, America is an island nation therefore needing a maritime capability. What that brought back to me was my memory of the issue a few years ago of the so-called Lehman maritime strategy.

Two aspects of that strategy were particularly controversial. One was the plan to send carrier battle groups forward, putting them on station in the Soviet Union's virtual backyard.

The other part was the plan in a conventional combat situation, to have the Navy actively seek out and attack Soviet ballistic submarines in a conventional situation.

There were frequent arguments that that strategy would pin down the Soviet Navy into "defensive missions," it would discourage their attacking our convoys, and they made it clear that the third virtue was that it was macho as hell. The negative was that sending them within range of the Soviet assets would be suicide for the carrier and that threatening Soviet ballistic nuclear submarines in a conventional environment could end up being suicide for all of us.

What I would like to know now, since I have heard America is an island nation, that kind of conjures up a different image to me in terms of maritime strategy, given all that, where does the maritime strategy stand today in light of the new Administration and new policies in Moscow?

Does John Lehman live in doctrine or is there going to be a change?

Admiral TROST. He has written a book, whether he lives in doctrine is something that may be in dispute. When I refer to the U.S. as an island nation, I am implying neither isolationism or geographic absolutism. I am referring to the fact that the U.S. has depended in its history on a maritime capability for overseas markets, raw materials and energy resources, and that we're tied to many nations who are accessible to us only by sea or air in today's modern transportation system. That said, it also relates to a proper defensive strategy.

We have found over the years in order to defend our interests forward, in other words, well away from this island we occupy, it is to our advantage to take care of problems where they exist. We have found that forces that are not around deter no one.

Those forces deployed to local operating areas are of great help in preserving our interests. At the same time, we have developed a philosophy that forward deployed forces in a time of crisis can take decisive action while those sitting in homeport don't have much influence and are put in the position of having to react to any adversary.

So the U.S. maritime strategy, which predates either Mr. Lehman or me or my predecessor, has long been based on the validity of forward based forces which take early and decisive action against any adversary, if their presence alone is unable to deter that action.

Mr. AUCOIN. So there is no change in the philosophy?

Admiral TROST. None whatsoever.

If I could clarify very briefly, I think in many cases Mr. Lehman was misquoted because no military strategies would place battle groups forward where they are under an air umbrella until that umbrella could be neutralized. As to the issue of whether one country seeks out another country's submarines, that is academic.

If I am a submarine commander, I am not going to try to figure out what he is.

Mr. AUCOIN. When he has nuclear missile power?

Admiral TROST. No matter what power he has. It is one of the misfortunes of war to have your ship sunk if he is found first.

Mr. AUCOIN. Of course that could lead to a nuclear response.

Admiral TROST. It could, but it is unlikely that anyone would expect that he would have a hands-off situation in a wartime situation regardless of the type of force.

ANTI-SUBMARINE WARFARE

Mr. AUCOIN. Your mention of this being an island nation and our dependence on, reliance on the sea lanes for commerce and all the rest, then leads me to the budget that the Navy has submitted or that people that have not had a great deal of experience from the sea have submitted as a budget for the Navy with regard to anti-submarine warfare.

Unless years of briefings that I have asked for have been invalid, my understanding of the Soviet maritime threat is submarines. Yet I look at the budget submission and I have been told the ASW is the Navy's top priority.

In looking at the budget, what we have, Mr. Chairman, as you know, are cutbacks in key ASW areas.

Admiral Trost, I saw a recent article that suggested a dramatic decrease in Soviet submarine patrols and other naval operations and that affected, according to that press report, your ASW budget.

Is that true, and if so, would you describe how Soviet Naval operations have changed and how that enforced your ASW request?

Admiral TROST. To say that the reduction of out-of-area operations in Soviet forces has influenced our priorities is inaccurate. Our priorities are based on the potential threat posed by the large number of modern submarines operating out of area or, increasingly, in home areas, as we have observed in the last several years.

The Soviets have implied this is a result of their new defensive orientation. I think it is also the result of economic necessity.

Mr. AUCOIN. If we are a nation that depends for our economic well-being on the sea lanes and the major Soviet threat is submarines, why are we cutting ASW funding? Why does the Navy think it needs less sonobuoys in 1991 than previously planned?

Admiral TROST. On sonobuoys we post the requirement based on a certain threat. However, if there are not submarines to drop sonobuoys on, you don't buy as many.

Our usage rate is less than if there were large numbers of submarines out there that we could go out and exercise with for training.

Mr. AUCOIN. What are your plans for upgrades for the Navy worldwide operations centers and how have they changed within the last year?

Admiral TROST. I think if I were to give you the answer I would have to make it in closed session.

Mr. AUCOIN. Can you explain the proposed reductions of the Bermuda Naval Air Station which is used primarily as a center for tracking submarines in the Atlantic?

Secretary GARRETT. That is a proposal, as you know, to cut back on some of the operations. That is driven by the lack of activity to which Admiral Trost has referred. What we are trying to do, as we struggle with the ever-decreasing budget is to——

Mr. AUCOIN. Lack of what activity?

Secretary GARRETT. Soviet activity.

Mr. AUCOIN. We have not seen the Soviet activity?

Secretary GARRETT. That is correct. We operate patrol aviation from Bermuda.

Mr. AUCOIN. What is in that answer? Is the assumption behind that answer the assumption behind those who say because of peace breaking out in Eastern Europe, we ought to go for a big peace dividend now because we are seeing less hostile activity.

Secretary GARRETT. Let's assume for the sake of argument everything is successful and we don't see activity in the near term. What we are trying to do is to restructure in such a way that is immediately reversible or certainly reversible in the short term.

For example, if we stop flying P-3 squadrons in Bermuda in 1991 we could start again in a matter of weeks. As far as taking down other forms of force structure it is difficult because we are a very capital intensive operation.

We are trying to do things that we can reverse if we have to. That is one reason we identified that particular activity.

NAVAL ARMS CONTROL

Mr. AUCOIN. Admiral Trost, the Malta meeting between the President and Mr. Gorbachev highlighted once again the question of differences between the two super powers over naval arms control.

President Bush made it pretty clear that he did not think significant reductions in our naval assets or naval forces was a good idea or that talks along those lines leading to reductions would be a good idea. He gave reasons for that.

You have stated roughly the same thing in your testimony. What I am wondering about is, you know it is a changing world and the Secretary indicated the changes are not permanent, we don't know what will ultimately develop in the Eastern Bloc or even within the Soviet Union.

We cannot make permanent decisions based on the last few months. I understand that.

Admiral Trost, in your judgment, under what certain circumstances could mutually agreeable naval control features be advantageous or feasible for the United States.

Admiral TROST. I can see none because I cannot see it in our interests to be reducing the capability on which we depend worldwide in exchange for a reduction in Soviet Naval forces which serve their political goals but are not essential to their national security or survival.

Mr. AUCOIN. What if the Soviets would agree to cut their attack submarines substantially and limit their missile submarines, sharply diminishing their major maritime threat to our assets, sea lanes, superiority, maintenance, all that you have mentioned, why couldn't NATO afford to cut its anti-submarine forces including frigates and attack submarines?

Admiral TROST. Simply because the history of the last 50 years has shown us that we have a limit for those forces in peacetime, a limit which is also based on crisis and contingency situations that threaten our interest.

I might note that we operate with a smaller level of forces today than that 600-ship Navy that you say is essential for the countering of an existing Soviet threat.

We can do so because we are accepting a slightly higher level of military risk based on assurances and today's reality.

Mr. AUCOIN. Thank you, Admiral.

My time has expired.

I have been interested in observing the hearing today.

Mr. MURTHA. The gentlemen from Ohio.

OPERATION JUST CAUSE

Mr. MILLER. Thank you, Mr. Chairman.

Gentlemen, we talk about regional conflicts and terrorism and it appears that those are the threats we are going to be facing for some time. As we look at the total globe it appears that we will have to have fast ships, fast planes and enough troops in order to

put down the regional conflicts that really require a military response.

I am wondering, because you came out of one not long ago, Operation Just Cause in Panama, did you learn anything from the activity that took place there, were the proper ships used or do we need more of a different type of plane or ship? Usually we learn a lesson from everything that we do. Do you see any changes in the operation of the Navy?

Admiral TROST. With respect to the Navy, our participation and operation in Operation Just Cause was minimal. We provided in-country naval forces, predominantly SEALS.

The greatest part was the Marine Corps and General Gray may want to address the 1,000 or so Marines that participated in that operation.

General GRAY. Thank you.

I have been asked why we didn't see any Marines going to Panama. That is because 1,000 or so, who fought in Panama had been there for a couple of years. They were part of an expeditionary force sent to protect the people in Panama.

As I alluded to earlier, we had our fleet anti-terrorist units down there. I think it is very important to not only observe lessons learned from Panama but to ensure that they are the right lessons.

It was not a power projection operation in the classic sense; nor an expedition. You had an advance base consisting of some 13,000 military built up over time.

I think it does underscore the superb capability we have in the special operations arena and demonstrates our ability to utilize airborne forces when the situation permits. It demonstrates the capability of Ranger operations and the follow-on operations of our Army colleagues.

We are particularly pleased at the performance of the Marines. We did, in fact, uncover the larger percentages of enemy equipment and supplies. The larger percentage of the detainees were uncovered by the small Marine mobile forces, as well.

From the standpoint of a greater strategy, we were prepared to use amphibious forces on both coasts, if that was necessary.

We did not have to do that. Of course, we had 15,000 Marines on the East Coast and 16,000 on the West Coast configured into air alert type of light brigades, had they been needed.

We had active duty civil affairs officers and 62 Spanish linguists. Had the operations gone on longer than we would have liked, we were prepared to complement that unique mission requirement in Panama. We must look at all sides.

Could new equipment or capability requirements come out of that operation? I don't think so. I think that was a fairly straight forward operation.

It reinforced the lesson of how much air support is required in an operation when you cannot come from the sea. Three or four ships carry the equivalent of the nations air lift.

AIRLIFT VERSUS SEALIFT

Mr. MCDADE. Will you yield at that point?

Mr. MILLER. Yes, I yield to the gentleman.

Mr. McDADE. When you were in conversations with the Chairman about the 50,000 Marines ready to go tonight, the chairman asked the question about sealift essentiality. You said, as I recollect, that you could move 50,000 each way, no problem, tonight.

I was confused by that because when we had the Air Force up referring to Panama, they indicated to us that only moving 12,900, and I don't minimize the difficulties of doing that, we used 25 percent of all the total available air lift.

If we had had to do it double the number the equation gets gets even tougher. How do you move 50,000 from each coast?

Mr. MURTHA. Just what Mr. McDade is saying, if 25 percent of airlift moved the 12,000 to Panama, a short distance, 75 percent of the airlift if they had had to move for——

General GRAY. That is right. That is sort of my point. When you come by air you get there quickly but you have very little to employ for a longer period of time.

Mr. McDADE. Then how do you move 50,000 from each coast?

General GRAY. We have two deployment options. We have amphibious war fighting ships today that move 60 to 75 percent of that capability at any one time, in either ocean. You also have the three maritime prepositioned squadrons of about 13 ships collectively that have prepositioned supplies and equipment for 30 days of warfare, that is enough to support three 16,000-man brigade sized forces.

This capability requires only 249 C–141 sized sorties per maritime preposition force. So, for 750 air lift sorties, we field about 45,000 warriors in action sustained, for a period of about 30 days. So that is the difference.

When you want to fly an equivalent kind of force for one prepositioned force brigade, the marines require 249 sorties as opposed to in excess of 4,900 sorties others require. That is where the additional sealift comes in.

I am a supporter of the additional sealift. It comes in during long haul sustainment; and, it is a factor in the 60-day operations, like Europe.

Mr. McDADE. I still don't have it fixed in my mind.

General GRAY. I would be pleased to lay it out for the record.

Mr. McDADE. I wish you would. It seems that we have a terrible lack of sealift and the bulk of what you have must get there by way of sealift.

General GRAY. That is correct.

Mr. McDADE. Do I understand you to say when you move the 50,000 from each coast and use service combatants and use some airlift to get there, because you are prepositioned, it will enable you to stay 30 days but not longer?

General GRAY. That is correct. We have deployed around the world today maritime prepositioned ships, which are based in the Indian Ocean, in the Eastern Atlantic and in the Pacific.

The amphibious capability that is in effect today can move the rest of our forces for this commitment. What must be done over time is sustain an amphibious lift requirement. That is part of the future deliberations.

Mr. McDADE. I understand your testimony that if you had a requirement to deploy 50,000 from the east or 50,000 from the west

that they could be transported by airlift and get out to the prepositioned areas?

General GRAY. The capability exists this morning, to move about 48,000 Marines. They are organized, trained and equipped to use three brigades worth of equipment which is aboard forward deployed maritime prepositioned ships that have likely moved to a place of tension during warning time. That capability exists this morning.

It can be exercised anytime you desire. It takes about 250 aircraft per set, so with 750 C–141 equivalent lifts, you get 45,000 warriors with the equipment for 30 days sustained operations. This is independent of the nation's amphibious lift capability, today.

Mr. MCDADE. Thank you very much.

General GRAY. I would just add that the sealift of the future needs to combine technology and must have multi-purpose use. That is what I would like to see for the future.

Mr. MCDADE. Thank you.

[The information follows:]

As an expeditionary, combined arms, force-in-readiness the Marine Corps must provide forces that can be rapidly deployed globally, in support of our national strategy and security objectives, with assets that are sustainable and responsive. Deploying forces must have sufficient combat power to either resolve the crisis on terms favorable to the U.S. or to seize and hold the beachheads, ports or airfields needed for the introduction of follow-on forces. The Marine Corps' ability to deploy forces by multiple means (i.e. amphibious shipping, maritime prepositioning and strategic airlift or a combination of all three) enhances its ability to rapidly and effectively respond to a full range of global crisis scenarios.

Marines train and organize for combat as fully integrated combined arms teams which are commonly referred to as Marine Air-Ground Task Forces (MAGTFs). There are four basic types of MAGTFs that may be formed in support of national strategy and combatant CINC crisis response requirements.

The Marine Expeditionary Force (MEF) is the largest (30,000–60,000 Marines and Sailors) and most powerful of the MAGTFs. It may range in size from less than one to multiple infantry divisions and aircraft wings, together with a force service support group. It is capable of conducting a wide range of expeditionary and amphibious operations, and with its 60 days of supplies and replacement equipment, is capable of sustained operations ashore in any geographic environment. Each MEF has the capability to task organize special operations capable forces to execute specific missions supporting combatant CINC contingencies.

The Marine Expeditionary Brigade (MEB), with 4,000–18,000 Marines and Sailors, is normally built around a refinforced infantry regiment, an aircraft group, and brigade service support group. It is capable of rapid deployment in expeditionary, amphibious, and reinforcement roles as required. MEBs may be forward-deployed on amphibious shipping, deployed by strategic or tactical airlift to fall in on prepositioned equipment and sustainment, or deployed solely by air, as an airlifted light brigade. As with the MEF, the MEB has special operations capabilities derived from the enhanced training and equipment possessed by its subordinate units. The MEB deploys with up to 30 days of sustainment and may be employed as the forward element of a MEF.

The Marine Expeditionary Unit (MEU) is a MAGTF of 1,000–4,000 Marines and Sailors, normally comprised of a reinforced battalion, a helicopter squadron reinforced with deployed and CONUS on-call fixed-wing assets, and a service support group. A MEU with special operations capabilities (MEU (SOC)) is routinely forward-deployed in the Mediterranean and the Western Pacific as the immediately responsive, on-scene, sea-based Marine component of the Fleet Commander's amphibious power projection force. The MEU (SOC) is task organized, trained, and equipped to conduct a wide variety of conventional and specialized operations. Foremost, is its capability to conduct long-range amphibious raids from over-the-horizon, without electronic emissions, during periods of darkness, and under adverse weather or sea conditions. For sustained operations ashore, the MEU (SOC) may serve as the forward element of a MEB. The MEU (SOC) can also deploy on short notice by a mix of tactical and strategic airlift for contingencies in support of fleet and combatant

CINCs. MEU (SOC), deployed in amphibious shipping, normally carry 15 days of sustainment. Additionally, a CONUS based Amphibious Ready Force (ARF), consisting of a MEU size MAGTF and an Amphibious Ready Group (ARG) of amphibious ships is capable of embarkation and commencement of deployment within 96 hours of notification.

Special Purpose Forces (SPF) are task organized MAGTFs configured to accomplish missions for which the MEF, MEB, and MEU are not approriate. They can be configured, trained, and equipped to conduct a wide variety of conventional and other operations. Recently, Special Purpose Forces have been employed in Panama, the Persian Gulf, and on the southwest border of the U.S. in counter-narcotics operations. They can be deployed by a variety of means, to include amphibious or commercial ships, tactical or strategic airlift, or by organic Marine Corps aviation assets. These forces are normally composed of Marines highly trained in day/night operations to include raid and strike operations. They may possess extensive surveillance and reconnaissance capabilities to include Unmanned Aerial Vehicles, radio reconnaissance, and counterintelligence assets, as required. Special Purpose Forces are integral to the ACF and MEU (SOC).

The Maritime Prepositioning Force Program (MPF) improves, substantially, the global response capability of Marine forces. The objective is to combine the advantages of airlift speed with sealift capacity for rapid deployment of an expeditionary brigade, with 30 days of sustainability, to any crisis area. The MPF program contains thirteen specially configured commercial ships, leased through the Military Sealift Command, and organized into three Maritime Prepositioning Ships (MPS) squadrons. Prepositioned aboard each squadron is equipment and supplies to support one mechanized, heavy MEB. The three MPS squadrons are forward-deployed and are located in the Eastern Atlantic, the Western Pacific and the Indian Ocean. They permit the CINCs to move quickly, a powerful, self-sustaining MEB while reducing the requirement for strategic airlift. The MPF MEB may be deployed as an entire element or as smaller elements using the MPS' selective offload capability. The MPF MEB may be joined with a forward-deployed MEU (SOC) and amphibious MEB to form a MEF size MAGTF. The number of airlift sorties required to deploy each MPF MEB is 250. This includes a mix of C-141, C-5 and Civilian Reserve Air Fleet (CRAF) aircraft needed to deploy the fly-in echelon (FIE). The FIE consists of Marines and Sailors who make up the MPF Brigade, Navy personnel of the Naval Support Element (NSE), helicopter assets and a small amount of equipment (e.g., personal weapons and communication equipment) not prepositioned. Without MPS, approximately 4,500-plus airlift sorties would be necessary to lift the same size force with all required equipment.

The diversity of prospective battlefields is virtually unlimited. No one combination of fire power and mobility is uniformly advantageous in all situations. MAGTFs, through their capability to flexibly task organize and special operations training, can provide fleet and theater commanders great versatility and balance in a single force.

The versatility and readiness of Marine forces to quickly respond to global crisis is a result of the MAGTF's ability to deploy in increments, and through a building block approach, form larger and more powerful forces. A forward-deployed MEU (SOC) is one of the most responsive MAGTF's. It is the "tip of the spear" that serves as the forward or lead element of a MEB, or MEF size force. As a forward-deployed amphibious force, the MEU (SOC) provides the fleet and theater commanders an immediate deterrent or crisis reponse capability.

The Air Contingency Force (the light airlifted MEB) is the most responsive MEB-level MAGTF. Within four hours after initial notification, lead elements of the ACFs can commence deployment from their CONUS or forward-based location to a crisis anywhere in the world. To ensure flexibility, the ACF initially deploys with 5 days of sustainment and mission essential, light equipment. Depending upon the crisis, the ACF may deploy only a portion of its personnel and equipment, such as a Special Purpose Force, or it may deploy incrementally as an entire light airlifted MEB. To increase the ACF's staying power and overall combat capabilities it may join with element(s) of the MPF. If additional forces are required the ACF may be combined with a forward deployed MEU (SOC) or an amphibious or MPF MEB.

When crisis response requires a from-the-sea forcible entry capability, an amphibious MEB should be employed. The amphibious MEB may be combined with a forward-deployed MEU (SOC) and a MPF MEB or ACF to form a more powerful and formidable MAGTF of MEF size.

Although MEF size amphibious assaults are possible, the length of time required to assemble the number of amphibious ships required to lift the assault echelon of our largest MAGTF generally dictates that a MEF deployment will be through a

combination of deployment options. For example, a forward deployed MEU could be used as the basis for a progressive build up of combat power by a sequential deployment of forces from either amphibious MEBs, Air Contingency Forces, or Maritime Prepositioning MEBs (or a combination of all three options). Factors that would determine the method of deployment include the size and type of forces required and the time available to deploy and employ these forces in response to a specific crisis.

Mr. McDade. Thank you, Mr. Miller.

DEFENSE INDUSTRIAL BASE

Mr. Miller. In another area, we have many people talking about the cutting down the military because of, as you all have heard about, all that has taken place in Europe. We find it affects the stockmarket, too.

We have companies which are pulling out of defense engineering and research and the production of military equipment. Are we going to have a problem in sustaining the industrial base, and what do you see happening to dual sources? Will we lose a lot of industries that would normally be producing military equipment? Where will we stand?

Secretary Garrett. I think we are going to see a negative impact in our industrial base without question. In the Navy we have attempted to, in almost every instance and certainly in the larger programs, enhance the industrial base by going to dual sourcing and using the competitive method where we end up, often times, with at least two sources. We feel that is very important for the future.

However, as I see the universe unfolding and the budgets going down, we will have to start singling up in some instances. As you probably know, there will be a negative impact on the industrial base.

As our force structure comes down. There will probably be even more negative impact because we will also have to bring down the infrastructure. That is, our own support base for our force structure goes away as we no longer have to support the current level of forces.

Mr. Miller. You feel you are giving this ample thought as we move along toward the future?

Secretary Garrett. We are certainly doing the best we know how, sir.

DRUG INTERDICTION

Mr. Miller. Could you tell us about anti-drug operations, how you are involved today?

Admiral Trost. Our forces, both Navy and Marine Corps forces, have been involved for a decade now in the interdiction effort to attempt to stem the flow of drugs coming from South America and Latin American countries as well as those coming from the Asian nations.

We have as a result of increased emphasis by the Congress and the President increased the number of ships and aircraft involved in those operations, with those operations taking place primarily in the Caribbean and off the west coast of Mexico and Latin America as well as our own coastlines further north—near the source countries and in the choke points of the approaches to the United States.

Our effort has doubled what it was a few years ago so that we are looking at an increase to about 4,300 ship days of presence operations in these areas, involved solely in that kind of operation, and some 40,000 flight hours involving Navy and Marine Corps aircraft in the surveillance interdiction effort.

It is an ongoing effort involving setting up command centers to correlate available intelligence and interaction with the DIA, Customs and the Coast Guard.

Mr. MILLER. I see that this can be tied into training while ships are steaming.

A few years ago we had a vice presidential organization that covered many of the departments, and it was I believe called the Southern Florida Operation then—is that still in effect at this time? And also, it appeared that if we were able to stop the drug runners from coming to Florida, that they would only come on up the Atlantic Coast. Have you found that occurring also?

Admiral TROST. Our experience with the Coast Guard has been that as we have made it tougher for the drug runners to come in undetected through the Caribbean and Atlantic shores, the interdiction effort has gone north as far as Maine and aircraft going into Canada itself.

Secretary GARRETT. As we have made it more difficult by interdicting small aircraft and water-borne aircraft, they are also moving to very sophisticated methods of packaging and secreting large shipments in commercial shipments, which are very difficult to deal with.

Mr. MILLER. What part of your 1990 and 1991 budget would be considered for drug interdiction or whatever we may want to call it?

Admiral TROST. I prefer to do that for the record to make sure we give you accurate figures.

[The information follows:]

In FY 1990, the Operation and Maintenance, Navy and Navy Reserve budgets include OPTEMPO funding of $149.7 million for drug interdiction efforts and an additional $30.4 million for demand reduction programs aimed at reducing the demand of illicit drugs. The OPTEMPO funding in support of the drug interdiction efforts represents approximately 10 percent of non-deployed OPTEMPO for ship steaming days and 4 percent Primary Mission Readiness (PMR) for the flying hour program.

Beginning in FY 1991, all counternarcotics funding will be budgeted within the DoD Drug Interdiction appropriation and centrally managed by the Office of the Secretary of Defense (OSD). Therefore, the Operation and Maintenance, Navy and Navy Reserve budgets include no specific funding for the counternarcotics program in FY 1991. However, the Navy anticipates transfer of $190.0 million in OPTEMPO funding for ship steaming days and flying hours, and $30.7 million for Demand Reduction programs from the DoD Drug Interdiction appropriation to the Operation and Maintenance, Navy and Navy Reserve accounts. The counternarcotics OPTEMPO funding from the centralized DoD Drug Interdiction appropriation represents the balance of funding necessary to achieve non-deployed OPTEMPO and PMR goals, since the Navy's budget does not fully fund required OPTEMPO and PMR goals. This funding again represent approximately 10 percent of non-deployed ship OPTEMPO and 4 percent PMR.

FY 1990 and FY 1991 funding for specific counternarcotics Detection and Monitoring projects is budgeted within the DoD Drug Interdiction appropriation and centrally managed by OSD.

RECRUITING BUDGET

Mr. MILLER. We had an announcement from the President proposing to reduce troops in central Europe to 195,000. As we do this, it appears that we would not need some types of ships, the transports for cargo and in moving troops. We will need some, but it appears that we would have a surplus of personnel in the Army and, to some degree, you would have a surplus of personnel in the Navy and the Marines, I would think, on the basis of what we have found out so far.

Yet, we are still spending something around $200 million or more for advertising and recruiting; attempting to get additional people in when, at the same time, we will be forcing people out of the services.

It is an expense to the taxpayers that many of them hear about, of course. Most all Americans hear about what is taking place in Europe and then they see the advertising spots on the television that are quite expensive and, incidentally, are quite good, I will have to admit, but are we getting into a problem there? Should we hold down on recruiting?

Admiral TROST. With the reduction of the threat in Europe, a reduction is planned for the Army and Air Force elements currently stationed there.

There is a concomitant increase in the emphasis on the ability of the Navy and the Marine Corps to provide forces to ensure the security of the flanks of NATO during the same time frame. As General Gray has mentioned, we must maintain the Marine Corps capability since they are the secure reserve force for any European contingency, as well as preserve the Navy's capability to provide rapid reinforcement or reintroduction of forces into Europe should some contingency arise. So the impact of the reductions in Europe driven by the current situation is really minimal on our two services.

Our recruiting efforts over the last several years have been driven heavily by the fact that the number of available people of so-called military entry age has been declining. It is a demographic trend that will be reversed in the 1993–1994 time frame as more people become available.

We have had to work harder to ensure the quality of recruits that we need. There will continue to be clear reductions in the recruiting numbers, the numbers of people required by Army and Air Force. We would hope to be the beneficiary by being able to bring in higher quality across the board than we have even to date.

Secretary GARRETT. May I add we, of course, are enjoying this year and did last year one of our better years of recruiting in five years. That is not an easy process. But if you take a force of 400- to 500,000 people, in normal times, you are going to lose maybe 20 percent of that in the all-volunteer environment. So there is a vital need to continue to access the quality the CNO refers to as you look five to 10 years in the future. Because, otherwise, if you drop off on those accessions to replace those who are in their first term of enlistment or who retire, you have to provide that continuity across time.

Mr. MURTHA. The time of the gentleman has expired.

Mr. MILLER. Thank you, Mr. Chairman.

Mr. MURTHA. We will adjourn until 1:30 this afternoon, when we will be in a closed session.

AFTERNOON SESSION

INTRODUCTION

Mr. MURTHA. The hearing will come to order.

We will start a little bit early so that we can ask a few questions as the members come in. I have a few myself.

AIRCRAFT CARRIER REQUIREMENTS

We were talking earlier about carriers and the staff was showing me that to deploy a carrier to the Indian Ocean it actually takes six carriers to support one up front, at least according to the chart the Navy gave to our staff.

Admiral, do you agree with that?

Admiral TROST. I don't know if that six to one ratio is accurate. Normally we would say four to one for a normal deployment in the Indian Ocean. However, you lose a lot of time transiting to and from.

I am not familiar with that particular chart but I would like to fall back for a minute on our historical experience.

Mr. MURTHA. The chart shows a 90 day deployment in the Indian Ocean and then a 90 day transit and it goes through the buildup to go and the time spent in repair at home.

I am really concerned about any idea that we can reduce our carrier battle groups. I want to make sure our record is clear. At least in my estimation, the security could be affected if we had the same number of missions we have today, and we were to reduce our number of carriers.

Would you address that?

Admiral TROST. Yes. My big concern is that a reduction in the numbers would not be accompanied by a reduction in the commitments that are levied upon us. That means we would go back to the situation we had a decade ago when we had two carrier groups cycle on station in the North Arabia Sea at any given time. We deployed the people eight to ten months at a time with a basis of 13 deployable carriers and we lost those people from the Navy.

Mr. MURTHA. So you are saying that if you have the same missions that you have today given to you by the President and if you had to cover the same area worldwide, you would have to deploy for an extended period of time if you reduced the number of carriers available to you?

Admiral TROST. Absolutely.

Mr. MURTHA. And you started losing the quality people because of time spent away from their families?

Secretary GARRETT. We believe we can function and meet our commitments with 14 deployable carrier battle groups, which is what we have today. We were going to 15 until we had to take the CORAL SEA out.

My greatest concern is if we come down and we have a contingency, we will not have the resources to meet such a contingency as we had in 1980 without going back to exactly where we were at that time, deploying for 200 plus days and driving people out.

Mr. MURTHA. What area would be the first area that would not be covered if we dropped a carrier out of the fleet?

Secretary GARRETT. The Secretary of Defense has reduced the commitment in the Indian Ocean to six months as opposed to one year, and that is the only reduction in commitments that we have as of this time.

Admiral TROST. We have no control over the commitments that are levied upon us. We meet the requirement as given us.

Mr. MURTHA. So what you are saying is that the only way you could reduce the number of carriers is if your commitments are reduced?

Admiral TROST. Yes, and that we are not going to have contingency situations that demand rapid deployment of contingency forces.

Secretary GARRETT. That is my concern. That no matter whether you have ten or twelve or fourteen, when the need arises you are going to send them. There are going to be no questions asked, and they are going to go. We have done it before and we will do it again and therefore, I think we need the insurance policy in those numbers to provide us with the resources that we need to meet commitments, plus any contingencies that arise.

NAVAL ARMS CONTROL

Mr. MURTHA. When Admiral Crowe was the Chairman of the Joint Chiefs, he resisted the possibility of arms control talks which included the Navy. The minute he got out I have seen statements where he had changed his mind. What is the official position of the Navy?

Admiral TROST. I can't speak to Admiral Crowe's comments after retirement.

My official position is that arms control takes place by mutual agreement when two things happen. There is an advantage to each of the parties having such control and each party's security position is enchanced.

My opposition has been based on the fact that there is no advantage accruing to our country in the process of reducing naval capability because we are so heavily dependent on our naval forces, whether or not there is a Soviet Union. The Soviet Union, on the other hand, doesn't have that same dependence on its naval forces, which it is not reducing other than to get rid of obsolescent ships.

Mr. MURTHA. Could you describe the proposal made by the Soviets?

Admiral TROST. The Soviet Union signed up to the mandates that cover both confidence and security building measure discussions taking place in Vienna and the conventional forces reduction in Europe and the Stockholm agreement of 1986, which noted exercises would take place on the periphery of Europe and in each case they agreed that naval arms control was not a subject for discussion.

They have, despite that agreement, continued to issue their propaganda statements. They have a number of proposals.

Naval arms control has not been specifically defined, beyond saying that our country has a Navy which is too strong, and which therefore, poses a threat to the Soviet Union. They have proposed a number of companion measures which would deny our free and open use of the seas by declaring certain areas as antisubmarine warfare free, or submarine free or nuclear weapon free zones that at the same time, curtail our operations. Those we have discounted as impinging on the free use of the sea.

STRATEGIC WEAPONS

Mr. MURTHA. I am sure you have discussed with the Joint Chiefs the importance of strategic weapons. I am concerned that there is no way we can meet the budget criteria with these strategic weapons in place. For instance, I think the Midgetman is in jeopardy. I think the MX rail garrison is in jeopardy. What is the position of the Navy with regard to the B-2?

Admiral TROST. I don't feel that I should sit in judgment of the various systems other than those for which I hold responsibility beyond saying that I do think we need a mix of types, and I think there is a role for a manned bomber.

Mr. MURTHA. I understand that, but we are getting down to the point where each service has its own concerns. The B-2 is going to be a major concern. The Joint Chiefs are going to have an important say. Is the B-2 as important as it was six months ago?

Admiral TROST. You are putting me in a position, Mr. Chairman. The B-2 is in the budget, the Secretary of Defense and the Secretary of the Air Force have testified for it.

Mr. MURTHA. Your defense doesn't seem to be as strong as the Commandant's was for the V-22.

General GRAY. Could I add that your concerns are also shared on the other side of the river. As you know, that is one of the reasons this is being looked at in one of the studies this spring. I think the need for the Triad goes without question. Probably the numbers have to be looked at very carefully. As a member of the JCS, I am confident that is what Mr. Cheney is looking at.

Mr. MURTHA. You know it is going to be almost impossible to keep naval arms control off the agenda with it out in the public now. As START becomes a reality, there will be a limit on the number of nuclear vehicles launched. Who is the voice to JCS concerning the allocation of warheads between ICBMs and SLBMs?

Admiral TROST. We will live within the numerical limits of 4,900 if the START agreement is signed. We have looked at a number of alternative plans and intentionally did not come up with a given plan or breakdown that has either JCS or Secretary of Defense approval.

The reason for that was not to tie the hands of our negotiators through leakage of such a plan in the negotiating process. We have looked at maintaining a roughly proportionate mix of warheads on alert compared to what we have now, and in the process, we have continued to reiterate the relative invulnerability and security and

now accuracy, of the sea launched ballistic missile system vis-a-vis other systems which complement it in our strategic forces.

SEALIFT AND AIRLIFT REQUIREMENTS

Mr. MURTHA. Mr. McDade asked you about sealift this morning. Let me go over the figures as he and I understand them. The Air Force said to us that to transport 12,000 troops to Panama we used one quarter of our world air transportation capability. If we had to transport 26,000 troops we would have used three fourths of our worldwide capability.

Now, I don't know how that fits in with the 50,000 being deployed say further away than Panama and I don't know where you get the airlift to do it. You are going to deploy 50,000 Marines and we used three quarters of our lift to deploy 26,000 Army people. It appears we don't have enough airlift. The figures don't add up.

General GRAY. Again, I think we ought to lay that out in detail for the record so it is clearly understood. For 250 C–141 equivalents you can fly Marines anywhere in the world, marry them up with a maritime prepositioned force, one set, and you will have a capability for sustained combat of 30 days whether it is armor, mechanized, or any variant thereof.

To fly Army forces to that point and to support that kind of capability for probably even less than 30 days, would take 4,500 sorties. The differential here is your sealift and your forward basing maneuver of it. So, it argues again for sealift.

Mr. MURTHA. In other words, we misunderstood. You didn't mean airlift, you ment a combination of airlift and sealift?

General GRAY. The 250 aircraft are coupled with modern ships already preloaded and prepositioned with Marine equipment and supplies for 30 days of sustainability.

Mr. MURTHA. Okay.

General GRAY. You fly, your fixed wing aircraft across the Pacific or the Atlantic. You fly in the 16,500 man air-ground task force via the 250 sorties. You marry it up in a five to eight day period ashore, after you have seized a port or airfield. Once "married up" you have an air-ground task force of 16,500 people, fully equipped for 30 days of sustained operations.

Mr. MURTHA. We hear that 90 to 95 percent of our equipment will go by sea. Is that true here also?

Secretary GARRETT. That would be for forces that you would sustain on the ground after initial insertion. I think General Gray is talking the insertion forces that would go in and secure an area. We could do that very quickly with the Marine Corps because of the sustainability that sits out there in the maritime prepositioning. Assuming you had a situation that went on for six months, then you would resupply a large percentage through sealift.

Mr. MURTHA. We have prepositioning at Diego Garcia, in Norway. Where else do you have prepositioning?

General GRAY. You have one maritime preposition capability out of Guam, one out of Diego Garcia, in the Indian Ocean, and one based in the eastern Atlantic. The Norway prepositioning is a land preposition that goes to the high north.

Admiral TROST. We do have, as General Gray has said, the three maritime prepositioned squadrons which could support three Marine expeditionary brigades anywhere in the world. We have in addition another dozen prepositioned ships, most of them in Diego Garcia, the balance in the Mediterranean, containing ammunition, oil, water and equipment predominantly for Air Force and Army forces.

We then have the day to day lift in peacetime, which is comprised of government owned and leased ships operating under the Military Sealift Command as well as whatever we have in our U.S. flag maritime trade at any time.

The sealift capability which we have includes those eight SL-7s that we bought and modernized to handle Army divisional heavy equipment and get to Europe quickly.

In addition, we have 120 ships of various types, container, tanker, break bulk, which we had purchased and which were turned over to MARAD jurisdiction about two years ago. We had other numbers being purchased or planned for purchase as they came off the commercial market, by MARAD to put into the Ready Reserve Force, so we have a surge capability to complement the capabilities of the declining U.S. Merchant Marine on which we would have to depend in wartime.

Mr. MURTHA. Did you use SL-7s in Panama?

General GRAY. No there was one ship that went to Panama earlier. We don't know whether it was a SL-7 or not.

Mr. MURTHA. Mr. McDade.

Mr. MCDADE. How many C-141s are in inventory, what is the number of airplanes in the military command to move your people around?

Secretary GARRETT. We will have to supply that for the record.

[The information follows:]

The Air Force can supply the exact numbers, but my understanding is that there are about 234 C-141 aircraft in inventory which could be configured as needed to move troops. However, personnel would normally be transported by commercial aircraft from the Civil Reserve Air Fleet (CRAF) in a major contingency requiring mobilization. For a military operation without mobilization there are about 110 C-5 aircraft in addition to the C-141s which could be configured to transport troops over long distances, although I understand these aircraft are critically needed for movement of Army and Air Force cargo.

General GRAY. There are some 36 to 38, I believe, scheduled for deactivation.

Mr. MCDADE. The prepositioning ships are critical to anything you are talking about here—are you moving the troops by air?

General GRAY. Yes, sir.

Mr. MCDADE. Putting them on where the supplies are when you get there with the prepositioned ships so they don't need to be supplied from CONUS?

General GRAY. That is correct.

C-141 AIRCRAFT

Mr. MCDADE. The other part of the question is the transportation problem, and you move all those by C-141s?

General GRAY. If you use some C-5s, you need less C-141s, but that capability is in being. In other words, the Air Force is fully

capable of moving our forces. That requirement is but a fraction of the requirement that was used in Panama.

Mr. McDADE. That is where we have a problem, because the Air Force testimony to us was the stress on their airlift in Panama.

General GRAY. Absolutely; because it comes from two areas in my judgment: One, you have only so many aircraft, and MAC operates around the world. So, when you surge the airlift, even for a relatively small operation in Panama, you strain or possibly stop operations elsewhere around the world.

Therefore, if you can have a capability that requires less airlift and emphasizes more of the sealift maritime prepositioned capability, you have more flexibility.

Mr. McDADE. How would you get the group from Okinawa? How would they move?

General GRAY. There is always an amphibious ready force at sea in the Western Pacific, comprised of 2,000 people, aboard three to five ships. There are ships in the Western Pacific that can move an additional unit of the same size. You have a force which is forward deployed and forward based. It is ready to go. You can then stream 10,000 to 15,000 people by airlift into the area fairly readily. That is well within the Air Force envelope to move people by air.

Mr. McDADE. So if we were looking at the number 50,000 and the expeditionary force was told to go tomorrow, you would be talking about 5,000 that need to be airlifted, is that a correct statement?

General GRAY. I would say somewhat in excess of that. You would want to move 15,000 or 16,000 Marines to marry up with the preposition capability on Guam, as well as providing additional forces from Okinawa to the Philippines. You could also exercise turnaround; and, there is some black bottom shipping availability in the Western Pacific, as well.

Admiral TROST. One other factor, we are talking about two different kinds of loading for the same airplane. If Marines are being airlifted they are going in with combat packs but are not air dropped as most of the initial elements going into Panama were. The equipment and the people were air dropped, and my limited knowledge of palletizing and parachute extraction of equipment says you won't get near as much in as if you were just loading people to transport.

Mr. McDADE. Could you send us over some material, because the committee has a deep interest in how we are going to respond and how we are able to do this, as we are looking at diminishing threats and vulnerability. If we are activating C-141s maybe we shouldn't be doing that either. We would be glad to take a special look at it if necessary.

We are trying to do the same thing, to have quality people to meet an emergency. I understand what you are saying, Admiral, was that beyond the number that we talked about—25,000—we already had a base of groups, infrastructure, et cetera, beyond that lookout. So it is going to be of continuing interest to the committee. I am grateful to have the opportunity to discuss it with you.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

SEA LANCE

Mr. DICKS. The Navy has proposed termination of the Sea Lance program. Despite the fact that just two years ago a decision was made to proceed with a common long range ASW weapon.

Secretary Cheney testified before us earlier this month that ASW remains the number one priority of the Navy, and this is reflected in your written statements as well. Yet the Washington Post recently ran an article questioning this commitment, given a number of proposals in this year's budget.

Certainly cancellation of Sea Lance is about number one in this questioning of your commitment. Is ASW in fact your number one priority, and if so, why did you propose cancellation of the only long range ASW weapon available to the submarine force, and the only fast reaction long range weapon for surface ships? Has the requirement changed here?

Secretary GARRETT. The requirement has not changed. The requirements still exists. A lot has changed in the last two years. We went over the program carefully two years ago, a year ago, and then this year. We do have the requirement, as we have many requirements. The problem today, of course, is one of affordability, and the program is in some difficulty. We were looking at a two-year slip and a substantial increase in cost.

We do not have the weapon, of course, at this time. We are just finishing the development and it was primarily driven by affordability.

Mr. DICKS. But why do vertical launch ASROC? If you have one system that can only be used on a surface ship, has limited range, why not cancel it and go forward with Sea Lance that can be used both on surface ships and submarines, has greater range, and capability? The cost went up because the government decided we are going to use it both on surface ships and submarines.

Admiral TROST. Let me address VLA. We had come to the conclusion that Sea Lance was the way to go for a common weapon which could serve the needs of our surface ships and submarines. Having made that conclusion, we canceled vertical launch ASROC, the competing program. We were overruled and directed to procure a certain number, which we have done. That represents a sunk cost.

Sea Lance represents sunk cost in the R&D, but we stopped short of procurement because of the fiscal constraint, not because of the absence of a requirement.

Mr. DICKS. But VLA, as I understand it, we only bought a very small increment there, isn't that correct?

Admiral TROST. One or two or three hundred, I forget what the directed buy was.

Mr. DICKS. VLA is a poor substitute for Sea Lance.

Admiral TROST. That is correct. It is much shorter range weapon.

Mr. DICKS. What worries me is the Soviets have a standoff capability, and I am worried that this decision could threaten our submarine force. In researching this issue, I have run into a disagreement among analysts about the ability to fully utilize the extended range provided by Sea Lance. Some have suggested that our ability to detect and track to the extent necessary to target newer classes

of Soviet submarines is poor enough that Sea Lance is of marginal value. Is that accurate?

Admiral TROST. No.

Mr. DICKS. That information was provided during at-sea exercises—this is range-ex105—to demonstrate the ability of Sea Lance to target at standoff ranges?

Admiral TROST. I am not familiar with the exercise. I can provide the details for the record. I know we have run exercises, and we do on a continuing basis to exercise our ability for long-range stand-off targeting, and that continues.

[The information follows:]

RANGEX 1-88 was an exercise conducted in the western Atlantic Ocean in April 1988 which evaluated the accuracy to which a 688-Class and 637-Class SSNs could independently track and localize a submerged, maneuvering, ——— submarine at ranges in excess of effective torpedo engagement ranges.

The results of the exercise indicated that a 688-Class SSN equipped with the wide aperture array (WAA) was able to localize ——— targets with sufficient accuracy to achieve an overall success rate of ——— percent in first attacks. The current sonar and fire control systems were able to localize ——— targets for first attacks approximately ——— and were able to accurately localize ——— targets in ——— first attacks.

Localization accuracy improved for evasion firings over the first firings because of the increased passive broadband levels exhibited by the evading targets. The WAA equipped submarine was able to track and attack an evading target in ——— attempts. The current sonar and fire control systems were able to track and attack an evading target in ——— attacks.

Mr. DICKS. What impact did Sea Lance have on anticipated submarine exchange ratios based on those exercises?

I have been told that without Sea Lance, those exchange ratios get worse, and with Sea Lance, the exchange ratios between us and the Soviets get positive. Because the Soviets have a stand-off capability that forces these poor exchange ratios, I would expect the exchange ratios to go down and be less favorable to us. I wouldn't expect them to be negative, and I have not seen that.

I understand the Navy has done a cost and operational effective analysis of Sea Lance. What are the results regarding relative number and cost of our own ships and submarines lost with and without Sea Lance?

Admiral TROST. I will have to provide that for the record.

[The information follows:]

A Cost and Operational Effectiveness Analysis was conducted by the Navy and presented to the Office of the Secretary of Defense (OSD) in December 1988. The results of this analysis were not accepted by OSD; the analysis was considered to be incomplete. Further analyses were in progress to correct this deficiency prior to the termination of the program.

Mr. DICKS. I think you will find that with Sea Lance, we do quite a bit better.

Do the Soviets have a stand-off long-range ASW weapon from their submarines?

Admiral TROST. They have a weapon with the capability of being submarine and surface launched.

Mr. DICKS. Can you tell us about its characteristics?

Admiral TROST. I can't off the top of my head.

Mr. DICKS. Put that in the record.

[CLERK'S NOTE.—Classified insert removed.]

Mr. DICKS. From a tactical perspective, what advantage does it provide to the Soviet submarine force?

Admiral TROST. If they can detect us at a stand-off, they can use their weapon. That is the advantage for any of us, or with second-party targeting.

Mr. DICKS. Are you satisfied just having a torpedo capability? Are we creating a sanctuary where they can stand off and where we cannot attack them with torpedoes, yet they can attack us with stand-off cruise missiles?

Admiral TROST. If they develop their sensor system to give them a relative advantage in detection, they would then have that advantage; that is correct.

Mr. DICKS. I have been a strong supporter of the SSN-21. Are we now so committed to getting the Tridents and the SSN-21s and the destroyers that we are sacrificing every other kind of system?

That is what worries me. I can understand you want this new submarine badly, but what kind of a price are we paying here? Are we really negating our ASW capacity by not having certain weapons and then asking for weapons that won't have proper equipment to put on? I am worried about that.

Admiral TROST. I am, also. I don't think we are negating the ability of the SSN-21 with this action. I am not emotional like General Gray, so I never burst out. But there are a lot of things with which I am dissatisfied in the procurement process, including the fact that this country doesn't seem willing to procure that which those of us who have given our lives to our country feel necessary.

Mr. DICKS. How much has been spent on Sea Lance to date, and how much remains to field Sea Lance.

Would you put that in the record?

[The information follows:]

$519.4 million has been spent on the Sea Lance program through FY 1989. The FY 1990 Congressional authorization was for $127.8 million of which $81.5 million has been allocated to the program for termination expenses. As of 2/28/90, $60.6 million had been obligated.

Termination efforts of the Sea Lance program commenced on 3 January 1990. As a result, a detailed plan to complete development is not available. In view of the termination efforts already completed and the assumption that a Congressionally mandated restart of the program would not commence before FY 1991, it is estimated that a two year delay in initial operational capability (IOC) will occur, beyond the recommended delay in IOC made by Navy last December. The additional development cost is estimated at $986.2 million over a seven year period.

Mr. DICKS. For the record, since you justify that it is being for affordability reasons, are you testifying that the contribution it makes for submarines and surface ships is less than the increment of two SSN-21s in the force structure?

Secretary GARRETT. No, sir, that is not our testimony.

Mr. DICKS. Why don't you think about that one.

[The information follows:]

The contribution of the Sea Lance ASW Standoff Weapon is insignificant compared to that provided by the SSN-21 Seawolf submarine. SSN-21 is capable of providing exceptional mission response throughout the spectrum of ASW confrontations, whereas the utility of Sea Lance is limited to specific employment opportunities. Therefore, maintenance of the SSN-21 force structure is critical to maintain our posture in the ASW mission area.

Admiral TROST. Are you asking would we rather have the two SSN-21s than the Sea Lance?

Mr. DICKS. Yes.

Admiral TROST. My answer is yes.

Mr. DICKS. Put it this way, say we had 35 SSN-21s versus 37. Are you testifying that you would rather have the two extras than having Sea Lance on all 35 of the other submarines?

Admiral TROST. Right now my position is that we need the two SSN—21s which would make a total of 37 by the time they are completed five to seven years from now.

If we get to the point where I have 35 and the issue is whether I want to provide more weapon systems or two more submarines, I would have to look at the trade-offs of cost and capabilities as that time.

Mr. DICKS. So we are going to buy platforms and then decide whether we have weapons for them or not?

Admiral TROST. We are going to buy platforms that take a long time to obtain and hopefully in the interim, we will find we can afford the weapon which could go into production with it.

SUBMARINE PROCUREMENT RATE

Mr. MURTHA. How harmful would it be if we only built one SSN-21 this year?

Secretary GARRETT. I think that is the wrong way to go because of the problem we are going to have in the future from an industrial base point of view. We have only two yards building submarines today and we need that as a minimum. That is why we were looking at three submarines in the out years to sustain those two yards.

Mr. MURTHA. You are saying that you have to build two a year for how many years?

Secretary GARRETT. Our plan was to build three a year in order to compete. If we go to two per year, we will probably get out of the competition business.

Admiral TROST. Two in this budget.

Mr. MURTHA. Could we go one a year?

Secretary GARRETT. Not in my opinion, sir.

Mr. MURTHA. You would lose a yard? How much would the cost escalate if you built one a year?

Secretary GARRETT. It would be a matter of conjecture at this point. I could try to work it out for the record.

[The information follows:]

Delaying authorization/appropriation of additional SSN-21s beyond the second ship for one year will increase the cost of the third SSN-21 by approximately $160 million. If the SSN-21 building rate were continued at one per year, approximate cost increases of 40 to 60% would be experienced. Also substantial increases would be realized on TRIDENT, SSN-688, and CVN programs through higher overhead.

Eliminating one of the two FY 1991 SSN-21s would further jeopardize our already fragile submarine shipyards and supporting industrial base. The lower quantities would negate the cost savings expected from increased learning, and prevent the Navy from expanding the qualified vendor base for SSN-21 components.

SEA LANCE

Secretary GARRETT. I know we would be in a position where we would be negotiating it biannually, and I think it would increase significantly.

If I may, as to Sea Lance, Congressman Dicks, I wanted to make clear that we are completing the testing that we had planned. We hope to put that technology on the shelf so that if we reach a point, although it does not appear likely to me given the trends that we see in the near term, where we can return to procurement of that weapon, we would do so. That is in the context of developing the technology to the degree we are able, putting it on the shelf and then going into production.

Another factor I was concerned about was the fact that the program is experiencing a two-year slip and a $935 million increase in cost. When looking at the program over time, which is a $4 billion program as originally planned——

Mr. DICKS. You understand why that happened is when you put them on both submarines and surface ships that the quantity of the buy went up. That is why the cost went up.

I am told that this program got an excellent rating. There is no particular problem with this program at this point of any significance; is there, Admiral?

Admiral TROST. No.

Mr. DICKS. It has extra capability; that is why it went up. We went through this a couple, of years ago, and Secretary Taft cancelled Sea Lance, and we explained it to him.

We said, now you have a program that can be on your submarines and on your surface ships, and it has greater capability than vertical launch ASROC. Why aren't you going with Sea Lance, and the decision was made to go with Sea Lance.

Leaving ourselves and these submarines without that capability, because the Soviets have it and it gives them extra capability we don't have, I think, is a serious mistake in judgment.

Are we really backing away from our commitment to a strong ASW program?

Secretary GARRETT. No, sir. We are trying to maintain some balance in our Navy and Marine Corps, and by balance I mean we are looking across the spectrum of programs, force structure, infrastructure, and trying to preserve that which we believe is absolutely essential to function as a Navy-Marine Corps.

And in doing that, we are taking some of the programs that we very much would like to have—we are taking them out.

Mr. MURTHA. Mr. Young.

V–22 OSPREY

Mr. YOUNG. Mr. Chairman, thank you very much.

As this morning's session ended, I still had a number of questions that I wanted to offer to General Gray on the question of the V–22. I would like to submit those in writing and have them appear in the record as a continuation of our conversation.

Mr. MURTHA. Without objection.

Mr. DICKS. You are going to ask him some more about them right now, aren't you?

Mr. YOUNG. I have some other questions.

Admiral TROST. The money for the V–22 was in the Naval Aviation procurement plan until it was cut, and then we lost all the money in the aviation plan for that purpose.

Mr. YOUNG. Since it seems to be sort of a common demand, I will say something else about the V-22. The Minister of the Japanese Ministry of International Trade and Industry, Mr. Hikaru Matsunaga, visited the U.S. recently and looked at our V-22, and he is quoted as saying, "if you produce this aircraft, I guarantee you we will buy it. If you do not, I guarantee you we will build it."

I am interested if you would have some comment for the record.

Also, Mr. Chairman, I would ask permission that Mr. Livingston be permitted to present some questions in writing for the afternoon session.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

MK-48 TORPEDO

Question. Admiral Trost, the quantities of MK-48 torpedoes funded last year were substantially less than the previous year. What was the unit cost increase associated with the reduced quantities?

Answer. The number of MK-48 ADCAP torpedoes procured in FY 1988 and FY 1989 were combined under a single contract with options (102 torpedoes in September 1988 and 320 torpedoes in January 1989), for economic pricing purposes, resulting in a unit cost of $1,205,000 for 422 torpedoes. The unit cost for the FY 1990 procurement of 240 torpedoes was $1,188,000 a decrease of $17,000 per torpedo. This decrease was attributed to the learning curve of the two manufacturers.

MK-46 TORPEDO

Question. Last year Congress initiated the buyout of MK-46 torpedo afterbody spare parts. What is the status of the buyout?

Answer. The MK-46 torpedo afterbody spare parts requirements have been identified but procurement action is pending funding authorization. These funds have been appropriated but not authorized.

VERTICAL LAUNCH ASROC

Question. Admiral Trost, since Sea Lance has been cancelled, what are the Navy's plans to meet the projected ASW threat for our surface fleet assets?

Answer. We are fortunate that we have continued to develop a VLA capability so that the cancellation of the SEA LANCE program, due to affordability reasons, is mitigated by having the VLA program to fall back on. We won't have a multi-convergence zone targeting capability like we hoped to have with SEA LANCE, but VLA will provide surface ships equipped with VLS launchers an intermediate range, all weather, quick reaction capability. We will continue to rely on ASW aircraft, including our very capable LAMPS MK-III to provide long range ASW attack capability.

Question. It is my understanding that the Vertical Launch ASROC (anti-submarine rocket) program has completed TECHEVAL and 25 flight tests. It is also my understanding that it is

ready to enter limited production. When will the first rockets be available to the surface fleet?

Answer. Vertical Launch ASROC (VLA) has completed TECHEVAL and a contract has been awarded to Loral Systems Division, Akron, to begin material procurement. Because of the limited number of full systems tests conducted during development, the decision has been made to delay fabrication of the missiles until after completion of OPEVAL. Fleet services are being scheduled at the present time and it is anticipated that first missile deliveries will occur in FY 1992 with the exact date dependent upon when OPEVAL is actually completed and the contract option for missile fabrication is executed.

Question. The VLA currently carries the MK-46 torpedo which is available in substantial quantities throughout the fleet for ASW defense. How long do you estimate the MK-46 torpedoes will be in the fleet?

Answer. I estimate the year 2015.

Question. With respect to the $30 million request in Navy R&D to incorporate a MK-50 torpedo warhead in VLA, what is your estimate of the cost and schedule requirements before a VLA MK-50 will be available to our surface combatants?

Answer. The estimated cost is $175 million with initial deliveries in 1998.

Question. Since VLA has recently completed its TECHEVAL, is it possible that this development effort could be accelerated to carry the MK-50 torpedo and make it available to our surface combatants in a shorter period of time?

Answer. The present schedule for development of a MK-50 VLA variant provides for adequate testing of missile design changes necessary to accommodate the new payload. Attempts to significantly shorten the schedule can only be accomplished by deleting testing which would significantly increase the program risk.

Question. Is it possible to extend the range of VLA?

Answer. Extending the range of VLA could be accomplished, but would require use of a different propulsion and guidance system.

V-22 OSPREY

Question. Even though we've asked hundreds of questions on the V-22 over the last seven years as we wrestled with alternatives, things are a little different today than they were a year ago. We are looking at an as yet unknown but substantial reduction in the number of military personnel who will be available to fly and maintain our aircrft in the future, and I would like to ask General Gray if there is any alternative to the V-22 which would require less pilots, less maintenance, and how the particular alternative of the CH-53E/CH-60 compares in the way of pilots, and cost to maintain?

Answer. We have looked at all of the potential alternatives to the V-22, and we have found none that offer advantages over the V-22 in terms of requirements for pilots and maintenance. When the V-22 program began in 1982, the Marine Corps sized the manpower request to the CH-46 community. That limitation is a

matter of contractual requirement. The same kind of limitation was placed, contractually, on maintenance considerations.

I know of no other rotorcraft conceived, designed or built with such stringent restrictions. Helicopters, by their very nature, are manpower intensive. Fixed wing aircraft, using technology from the same generation as a helicopter, require less maintenance. This phenomenon is largely attributable to the number of highly stressed moving parts employed in helicopters. Because the V-22 is a hybrid design that incorporates many fixed wing features, designed-in maintainability is easier to achieve. As a consequence, life cycle costs can be reduced.

In order to meet our lift requirement, CH-53E/CH-60 alternative would be more manpower intensive. I expect the Cost and Operational Effectiveness Analysis to quantify the impact on personnel. The CH-53E is a heavy lift aircraft, designed for logistic support, and the other services employ the H-60 in various configurations to meet their specific requirements. But the alternative force does not meet the Marine Corps operational requirement, nor does it meet the maintenance and personnel limitations imposed by the projected fiscal outlook.

Question. General Gray, are there any alternatives to the V-22 which meet the six capabilities you have identified in your statement as being critical for the medium lift mission?

Answer. There are no alternatives with the capability to meet all six requirements. There are aircraft which could meet individual mission requirements, but meeting them all would require several different types of aircraft.

The purpose of the V-22 development is to provide a single aircraft type, for all the services, which would meet a wide range of mission requirements. The capabilities I referred to can be applied to all those different kinds of missions, 28 in all, that have been identified since V-22 development began. No other aircraft I know of can make that claim.

Question. Regardless of the decision on V-22 and medium lift, it is my understanding that you will still need more CH-53Es. How many more will you need for the heavy lift mission?

Answer. Our procurement objective for CH-53Es is 191. Through FY 1990 we will have procured 112, leaving a shortfall of 79. All of those aircraft are dedicated to the heavy lift mission.

Question. The minister of the Japanese Ministry of International Trade and Industry, Mr. Hikaru Matsunaga, visited recently and looked at our V-22, and he is quoted as saying, "If you produce this aircraft, I guarantee you we will buy it. If you do not, I guarantee you we will build it." Your comments please.

Answer. I think Mr. Matsunaga was referring primarily to the commercial potential of tiltrotor aircraft in general, not just of the V-22, specifically. The Japanese and the Europeans have long recognized that potential and have actively pursued development of their own variants, through the Ishida Group and Eurofar, respectively. The Soviets also reportedly have been working on their own tiltrotor, and may have as many as three different designs under consideration.

It is apparent to me that these corporate entities, and the people within them, recognize the V-22 for what it is—the greatest tech-

nological step in the history of rotorcraft since the invention of the first practical helicopter. From their perspective, tiltrotors will overcome the operational limitations that prevented the widespread use of helicopters in the field of mass transportation, short haul and medium range cargo transport, and emergency medical airlift.

The Japanese are noted for their long range business planning. They are probably looking at the V-22 and its technology to meet their own transportation requirements and as an opportunity to develop the next generation of VTOL aircraft.

The United States has always held the upper hand in the aerospace industry, and we have an opportunity with tiltrotor technology to extend that lead. Mr. Matsunaga's statement indicates to me that the Japanese are ready to take that lead from us if we falter.

[CLERK'S NOTE.—End of questions submitted by Mr. Young. Questions submitted by Mr. Livingston and the answers thereto follow:]

SEALIFT POLICY

Question. Mr. Secretary, your statement to the Subcommittee says that DOD and the Department of Transportation "are assembling an agenda of programs and actions to ensure the adequacy of our sealift forces in the years ahead." What specific agenda of programs and actions are being developed and by what Department or Agency? Provide details for the record.

Answer. These actions are being undertaken in furtherance of Department of Defense participation in the Policy Coordinating Committee of the National Security Council that is responsible for sealift. The Department is represented in that body by Mr. Craig Alderman, Deputy Undersecretary of Defense (Policy). The Director of Transportation Policy in the Office of the Assistant Secretary of Defense (Production and Logistics) is supporting Mr. Alderman in developing DOD's position with respect to appropriate approaches to meeting the goals and objectives of the National Sealift Policy. This effort has just gotten underway and it is premature to provide details.

NAVY SHIPBOARD OR SHIP ACCIDENTS

Question. Provide for the record a chronology and brief details on the Navy shipboard or ship accidents that have occurred since January 1, 1989.

Answer. A total of 30 class "A" mishaps occurred since January 1, 1989. A class "A" mishap is one involving reportable damage of $1 million or more, or an injury/occupational illness that results in a fatality or permanent total disability. These are summarized below. Although the USS REEVES and USS LEXINGTON incidents were separately reported as aviation mishaps, they are included here because they were shipboard aviation mishaps that generated media interest.

CLASS A MISHAPS FOR CY 1989 PERSONNEL INJURY/DEATH MATERIAL/PROPERTY DAMAGE

Date	Ship	Description of incident
01-13	LKA	E-3 missing found drowned under NAVSTA pier.
01-18	LPH	E-3 fell overboard inport and drowned—alcohol related.
01-25	DD	Destroyer ran aground during ASW exercise in OPAREA with another ship and submarine.
01-28	AOE	E-3 died as result of burns received in boiler accident caused by operator violation of safety precautions.
03-06	FFG	E-4 lost at sea. Water temp 45 deg. possible suicide, body not recovered.
04-19	FF	FF collided with AO while manuevering to go alongside during drills. Both ships suffered extensive damage.
04-19	BB	47 personnel killed as the result of a gun turret explosion.
04-24	DDG	Air search radar antenna failed—fell off due to incorrect specs given to contractor for mounting bracket.
04-27	AE	E-5 killed while working boom. Offloading equipment boom failed and knocked man over side to pier.
05-09	AFS	6 pers. (E-5 through E-2) died during fire from smoke inhalation. Cause was improper maintenance on fuel line. Ship suffered extensive damage.
05-13	CV	E-4 and E-1 died from smoke inhalation in JP-5 fire.
05-18	LPD	Marine E-4 drowned during amphib operations in rough surf.
06-07	FFG	Gas turbine fuel manifold fire.
06-13	CV	Marine E-3 fatally shot by another E-3 during weapons cleaning in berthing compartment.
07-26	DD	E-4 lost at sea at night. Man left office to retrieve information for postal audit. Never returned.
08-10	FFG	Gas turbine generator compressor failed.
09-12	AOR	2 E-3's lost overside while performing maint on fuel rig, leaned on stanchion which gave way.
10-09	CV	Fire in uptake space as a result of improper stowage of oil spill containment matl.
10-11	LPH	O-4 killed during Phalanx weapons system exercise, stray round from LKA conducting firing at target drone.
10-11	FF	E-4 lost at sea while working on main deck, in preparation for return to homeport.
10-29	CVT	Pilot and four flight deck personnel were killed after aircraft stalled on approach and crashed into ship's island (USS Lexington).
10-30	CG	Pilot, during night flare bombing exercise, mistakenly dropped MK-82 that impacted on bow of ship, resulting in major ship damage and minor injuries (USS Reeves).
10-31	CVN	E-2 lost at sea during heavy weather. Violated ship's instruction by being in off limits area.
10-31	CVN	E-3 lost during weapons download in heavy seas. 38 missiles swept overboard.
11-08	CV	E-3 killed when armored hatch fell on him during maintenance work.
11-12	DD	Destroyer collided with merchant ship in strait, resulting in extensive damage and death of O-3 (ship's navigator).
11-19	FF	E-1 lost at sea after intentionally jumping overboard.
11-26	AE	E-4 killed while performing maintenance on cargo handling equipment.
12-13	CV	Electrical fire in flag plot spaces destroying space and $6 million worth of equipment.
01-24	AE	E-1 killed when he lost footing and fell down cargo elevator shaft.

A total of 32 class "B" mishaps occurred since January 1, 1989. A class "B" mishap is one involving reportable damage less than $1 million dollars but more than $200,000; or an injury/occupational illness that results in permanent partial disability; or when five or more personnel are inpatient hospitalized. These are summarized below:

CLASS B MISHAPS FOR CY 1989 PERSONNEL INJURY MATERIAL/PROPERTY DAMAGE

Date	Ship	Description of incident
01-15	CG	Ingestion of plastic into generator condenser.
01-17	LHA	6 pers (E-5 thru E-2) exposure to fire fighting chemical during cleanup of spill.
01-17	AFS	AFS collided with SSN that was attempting to pass in harbor channel.
01-27	LSD	Damage sustained to LCACs during well deck operations in preparation for amphibious assault.
02-06	CV	E-5 had two fingers amputated performing maintenance on aircraft.

CLASS B MISHAPS FOR CY 1989 PERSONNEL INJURY MATERIAL/PROPERTY DAMAGE—Continued

Date	Ship	Description of incident
04-01	DD	E-4 and an E-3 suffered smoke inhalation during storeroom fire caused by improper welding procedures.
04-05	FFG	4 pers (E-5 thru E-4) suffered smoke inhalation from engine fire in gas turbine module.
05-08	AD	E-5 amputated ring finger while conducting maintenance in his office.
05-21	AOE	Collided with AE during replenishment operations. Both ships suffered significant damage.
06-16	DDG	E-3 amputated thumb in machinery shop working on a board cutter.
06-17	CVN	E-4 amputated finger during aircraft launching due to not following proper procedures.
06-19	BB	Collision with pier/harbor. Pilot and tugs error, pilot failed to communicate with tugs properly.
07-06	LPD	E-5 lacerated finger while moving equipment, caught finger in rigging line. Finger reattached.
07-10	AOR	E-2 amputated finger during mooring evolution, caught finger in line reel mechanism.
08-14	FF	Civilian tug collided with moored FF.
08-22	DDG	Machinery room flooded due to failed salt water strainer on fire main system.
08-23	DD	Gas turbine generator damaged due to electrical control mechanism failure.
08-23	AFS	Firebox explosion in boiler (chem cleaning) improper procedures suspected.
08-30	LST	While hoisting causeways in heavy seas, after amphib operation, sides of ship damaged.
09-05	CGN	E-1 (mess helper) amputated finger in galley when range cover closed on hand.
09-06	AD	E-2 amputated thumb using pallet jack moving stores.
09-09	ARS	Storeroom fire from improper welding procedures.
09-15	AOE	Weapons elevator damage from operator error/haste did not follow proper operating procedures.
09-25	MSO	Diesel engine failed from low lube oil caused by leak and inoperative alarm.
10-10	AFS	Elevator and forklift damaged during equipment transfer by operator error.
10-19	ARDM	Diesel generator governor failed during inspection.
10-26	CVN	E-3 amputated thumb on film processor maintenance due to inattention.
11-01	AO	9 pers (E-6 thru E-2) suffered burns and smoke inhalation. Fire in boiler room because of operator error during maintenance.
11-14	LPH	Electrical fire in shipyard and ship's shore power breakers caused by poor design of shipyard electrical system 8 pers (E-8-E-2) suffered smoke inhalation.
12-03	AS	E-6 amputated finger during boating evolution caught finger in line while tying up.
12-10	CV	2 radio antennas damaged and 2 life rafts lost in heavy seas.
01-17	FF	Frigate collided with civilian merchant in reduced visibility.

TRAINING

Question. Provide a complete list of naval training sites and vessels used for shipboard training, including the type of training conducted at each site or vessel. (Sites or vessels used by Navy personnel other than those personnel specifically assigned to a regular tour of duty on the vessel.)

Answer. The following is a list of naval training sites and vessels used for shipboard training:

Naval Education and Training Center (NETC), Newport, RI: Communications Officer School.

Surface Warfare Officers School Command (SWOSCOLCOM) Newport, RI: Prospective Commanding Officer/Prospective Executive Officer (PCO/PXO) Training; Department Head School; Division Officer School; Engineering Officer-of-the-Watch (EOOW) School; and Damage Control Assistant (DCA) School.

Naval Damage Control Training Center, Philadelphia, PA: Damage Control (DC) "A" School; and Fire Fighting Training.

Fleet Combat Training Center, Atlantic (FCTCLANT), Dam Neck, VA; Combat Systems and Operator Team Training; Operations Specialist (OS) "A" School; and Weapons Maintenance and Operation (Gunnery/Cruise Missile).

Naval Guided Missile School (NAVGMSCOL), Dam Neck, VA: Surface to Air Missile Systems.

Naval Amphibious School (NAVPHIBSCOL), Little Creek, VA: Amphibious Operations; and Naval Gun Fire Support (NGFS).

Fleet Training Center (FTC), Norfolk, VA: Electronics Maintenance and Operation; Fire Fighting/Damage Control; Navigation; and Engineering Maintenance.

Fleet Anti-Submarine Warfare Training Center, Atlantic (FLTASWTRACENLANT) Norfolk, VA: ASW Team Training/Operations; and ASW Officer Training.

Fleet and Mine Warfare Training Center (FLEMINEWARTRACEN), Charleston, SC: Mine Warfare Operations and Maintenance; Combat Systems Operator Training; Navigation; Engineering Maintenance; and Fire Fighting/Damage Control.

Fleet Training Center (FTC), Mayport, FL: Fire Fighting/Damage Control; ASW Team Training; Navigation; and Engineering Maintenance.

Service School Command (SSC), Orlando, FL: Electronics Technician (ET) "A" School Phase I; and Torpedoman's Mate (TM) "A" School.

Service School Command (SSC), Great Lakes, IL: Engineering "A" Schools (Machinist Mate (MM), Boiler Tender (BT), Gas Turbine Systems Technician (Mechanical) (GSM), Gas Turbine Systems Technician (Electrical) (GSE), Engineman (EN), Electrician's Mate (EM)); Gunner's Mate (GM) "A" School; Fire Controlman (FC) "A" School; Electronics Technician (ET) "A" School Phase II; and Combat Systems Maintenance.

Service School Command (SSC), San Diego, CA: Radioman (RM) "A" School; Interior Communications Electrician (IC) "A" School; and Electronics Maintenance.

Fleet Training Center (FTC), San Diego, CA: Fire Fighting/Damage Control; Engineering Maintenance; Combat Systems Maintenance; and Gunnery Training.

Fleet Combat Training Center, Pacific (FCTCPAC), San Diego, CA: Combat Systems Team and Operator Training; Combat Systems Maintenance; and Gunnery Maintenance.

Naval Amphibious School, Coronado, CA: Amphibious Operations; and Naval Gun Fire Support (NGFS).

Surface Warfare Officers School, Pacific (SWOSCOLPAC) Coronado, CA: Division Officer School; and Engineering Officer-of-the-Watch (EOOW) School.

Fleet Anti-Submarine Warfare Training Center, Pacific (FLTASWTRACENPAC), San Diego, CA: ASW Operations and Team Training; Sonar Technician, Surface (STG) "A" School; and Sonar Systems Maintenance.

Naval Technical Training Center, Treasure Island, CA: Hull Technician (HT) "A" School; Fire Fighting; Engineering Maintenance; and Underway Replenishment (UNREP) Training.

Combat Systems Technical Schools Command (CSTSC), Mare Island, CA: Data Systems Technician (DS) "A" School; Combat Systems Maintenance and Operation; and Electronics Maintenance.

Fleet Training Group, Pearl Harbor (FTG Pearl), HI: Engineering (Steam and Diesel); Combat Systems; Damage Control; Navigation; and Naval Gun Fire Support (NGFS).

Fleet Training Group, Western Pacific (FTG WESTPAC) Yokosuka, JA; Engineering (Steam and Diesel); Combat Systems; Damage Control; Navigation; and Naval Gun Fire Support (NGFS).

Fleet Training Group, Western Pacific Detachment (FTG DET SUBIC) Subic Bay, RP: Engineering (Steam and Diesel); Combat Systems; Damage Control; Navigation; and Naval Gun Fire Support (NGFS).

Naval Technical Training Center (NTTC), Corry Station, Pensacola, FL: Electronic Warfare Technician (EW) "A" School; and EW Maintenance.

Vessels

USS Lexington (CVT-16)—Homeport, NAS Pensacola, FL: Carrier Landing Qualification (CQ) for Student Naval Aviators and Fleet Replacement Pilots.

Landing Craft, Air Cushion One (LCAC 1)—Homeport, Team/Crew Operations and Maintenance Training.

Question. Provide a breakout of funding it has cost the Navy in each of the last 5 fiscal years to transport, feed, house, etc. Navy personnel or units that are sent from other locations to shipboard training sites.

Answer. The data provided reflects temporary duty funding only because Permanent Change of Station (PCS) funding is not broken out by the type of training received or the location. Temporary duty figures for FY 1987 through FY 1989 are provided because data previous to FY 1987 is archived and currently will require approximately 2 weeks to retrieve. In addition, data is listed in the aggregate because separate transportation, messing and berthing accounts are not maintained.

Temporary duty funding

Fiscal year:	
1987	$3,371,000
1988	4,021,000
1989	4,020,000

PHOTOGRAMMETRY SERVICES

Question. Mr. Secretary, the Navy has published solicitations from the Philadelphia and Charleston Navy Shipyards to lease photogrammetry equipment (including cameras, etc.) with an option to purchase, and to train naval personnel so that the Navy can do this work in-house.

It has been the Navy's practice in the past to contract with private sector commercial firms for these services since there are indeed many small businesses in the private sector who make a living providing these services.

Why is the Navy, in these tight budgetary times, clearly heading a direction that would create a duplicative capability in-house that is already available from the private sector?

Answer. The need to improve productivity and reduce costs in naval shipyards is well understood. Capital investment in new technology to improve industrial process efficiency and reduce direct labor requirements offers a significant opportunity to improve productivity. This is recognized in the DOD FY 1990 Authori-

zation Act which contained a special appropriation of $81 million for modernization of naval shipyards through capital investment in new equipment and technology. Photogrammetry is a proven technology/process improvement in the ship construction industry. Charleston and Philadelphia Naval Shipyards have contracted for photogrammetric services on a case basis to test and evaluate this technology for applications to ship overhaul and repair processes. They have proven that photogrammetry offers significant cost savings, schedule enhancements, and quality improvements in a number of naval shipyard applications and these applications are expanding. The production needs of the naval shipyards in serving the Fleet can best be met by having in-house, controlled, responsive photogrammetric capability. The ability to test and evaluate additional beneficial applications of photogrammetry to ship overhaul and repair is also optimized with in-house capability. The cost savings achievable with photogrammetry as compared to existing production methods justify the acquisition of the needed technology. The current tight budgetary times yield less funding available for contractor services.

Question. Have the shipyard commands or the Navy in Washington conducted any cost comparison studies to see if these services can be done more cheaply in-house or in the private sector? If not, why not?

Answer. Cost comparison studies to determine if photogrammetry could be performed more economically by a contractor or with in-house resources have not been conducted. Inasmuch as this is a process improvement and not a new start of a commercial activity, it does not fall under the purview of OMB Circular A-76, and cost comparison studies are not required. However, Charleston and Philadelphia Naval Shipyards are intending to lease the photogrammetry equipment with an option to purchase. This will allow ample time to conduct an economic analysis of in-house performance.

NAVY FACILITIES RELOCATION IN THE WASHINGTON, DC AREA

Question. Mr. Secretary, provide for the Subcommittee's files a complete copy of the study/report conducted by the Navy dated March 11, 1988 that studied relocation alternatives outside the Washington, DC, area and concluded that it was more cost effective to keep commands in the Washington, DC, area.

Answer. A copy of the 11 March 88 study (Battelle Report), is reported as part of the attached Virginia Sites Alternatives Report prepared by the Naval Facilities Engineering Command as required by the FY 1990 Defense Authorization Act.

Virginia Site Alternatives

Feasibility for
Crystal City Alternatives Project

December 1989

Approved: _____

Andrew J. Vero
Director

Naval Facilities Engineering Command

Virginia Site Alternatives

Feasibility for
Crystal City Alternatives Project

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Study # 137-90
December 1989

Operations Research Consultant Group

Naval Facilities Engineering Command

Executive Summary

At the request of the Navy, Battelle-Columbus performed a comparative cost analysis that considered locations in and around Washington, D.C. and other representative settings in the Continental U.S. which could serve as potential sites for the five Naval Systems Commands and their support organizations. A feasibility report was compiled by Battelle-Columbus that considered five metropolitan areas as possible sites for such a move. The metropolitan areas chosen were: Washington, D.C. (one site in proximity to the Pentagon, another a suburban site in Fairfax County, Va.); Baltimore, Md.; Chicago, Il.; Houston, Tx.; and San Diego, Ca. This report considers additional possible sites located in the Commonwealth of Virginia.

The Virginia metropolitan areas that are considered in this report are Norfolk and Richmond. These were the only Virginia metropolitan areas that met the criteria set by Battelle as attributes and resources that potential sites and communities must be able to meet, if they are to be considered viable.

The methodology and assumptions used in this report are consistent with those used by Battelle. This was done to allow a relative cost comparison and ranking of the Virginia alternative sites with the sites considered by Battelle.

The results from applying the cost methodology used by Battelle to alternative sites within the Commonwealth of Virginia, which meet the screening criteria of the Battelle report, do not change Battelle's conclusion that on the basis of cost comparisons, Washington, D.C., would be the most cost efficient metropolitan location for a consolidated Naval Systems Commands facility. Calculating comparative relative costs for Richmond and Norfolk results in cost estimates higher than those for a Baltimore site and less than those for a Chicago site.

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Appendix A.....A

Background 1.0

Battelle-Columbus prepared a comparative cost analysis of locations in and around Washington, D.C. and other representative settings in the Continental U.S. which could serve as potential sites for the five Naval Systems Commands and their support organizations. The Navy is considering relocating and consolidating these integrated groups in order to maximize their ability to perform their mission for the Secretariat Staffs of the Secretary of the Navy and the Office of the Chief of Naval Operations.

In their report Feasibility Study of a Navy Relocation to Department of the Navy Crystal City Alternatives Project of March 1988 (hereinafter referred to as the Battelle report, see Appendix A), Battelle identified five representative metropolitan areas to be considered as potential candidates for such a move. The metropolitan areas chosen were: Washington, D.C.; Baltimore, Md.; Chicago, Ill.; Houston, Tx.; and San Diego, Ca.

This report was compiled to append Battelle's report by including additional potential sites located in the Commonwealth of Virginia.

Sites Considered 2.0

Because this report is designed to supplement Battelle's report, the assumptions and restrictions imposed by Battelle were utilized. Battelle required a metropolitan area population of one million or more as necessary for possible site locations to possess a sufficient labor pool to support the Naval facilities. Other requirements imposed by Battelle represent attributes and resources that potential sites and communities must be able to meet, if they they are to be considered viable. Table 1 of Appendix A illustrates the additional requirements. Because of the large number of metropolitan areas that meet these requirements, Battelle decided to illustrate relative differences in possible site locations by selecting a representative sample of metropolitan areas with a population over one million from different regions of the country. The metropolitan areas chosen were: Washington, D.C.; Baltimore, Md.; Chicago, Il.; Houston, Tx.; and San Diego, Ca.

This report will consider possible site locations located within the Commonwealth of Virginia. The constraining criterion is the population requirement; other site criteria (80-acre site, capability to meet electic power demand, etc.) are more widely met. The Bureau of the Census reported in a news release(CB89-145, dated 8 September 1989) estimated populations of metropolitan statistical areas as of 1 July 1988. The only metropolitan statistical area located entirely within Virginia that has a population over one million is Norfolk-Virginia Beach-Newport News, with a population of 1,380,200. The Virginia metropolitan statistical area with the next highest population is the Richmond-Petersburg area with a population of 844,300. The Richmond-Petersburg area was also considered because its population was close to the required one million, and, depending on the specific suburban Richmond location, it is possible that commuters could be drawn from the Northern Virginia portion of the Washington metropolitan area to provide the necessary labor force pool. There are no other metropolitan statistical areas located within Virginia with a population close to one million and thus no other alternatives were considered. The metropolitan statistical areas will be referred to as Norfolk and Richmond throughout the remainder of this report.

Cost Comparison 3.0

3.1 Workforce Characteristics

Many of the costs of various relocation alternatives are related to specific assumed numbers of personnel, including those relocating, retiring, or separating. Impact costs are affected by their school-age dependents. The SUMMARY OF WORKFORCE CHARACTERISTICS table, at the end of this chapter, is an extension of the Battelle report's Table 2 to cover the Norfolk and Richmond sites. Differences in numbers of personnel retiring early, separating, or commuting in the Washington area are derived in Section 4.1. Other numbers shown are derived by using the same key multipliers and formulae as used by Battelle for the other sites. (Formulae that are not apparent from the summary table were obtained from a copy of Battelle's Lotus 1-2-3 spreadsheet provided by Battelle.)

3.2 Comparative Costs

Costs for the Norfolk and Richmond alternatives were estimated by either (1) deriving the cost for the particular site by using the same algorithm as used in the Battelle report, or (2) by adjusting the costs shown in the Battelle report by an appropriate factor to account for site differences. As in the Battelle report, these are net present values at a 10% effective annual real discount rate of costs expressed in terms of 1987 constant dollars. This allows relative cost comparisons with the sites examined in the Battelle report. Derivation of categorical costs for these sites is described in detail in Section 4.0 of this report. The resulting Norfolk and Richmond costs are displayed in the SUMMARY OF COMPARATIVE COSTS table at the end of this chapter. This table is an extension for these two sites of Table 3, Summary of Comparative Costs, of the Battelle report (see appendix).

The Total Measurable Costs bar chart that follows the table graphically displays the net present value of total costs compared for all sites examined, using the summary costs from the Tables. Since the cost categories are displayed in patterned stacked bar segments, the chart also visually displays the relative dominance of cost components for site alternatives (and thus indicates the relative sensitivity of results to assumptions about these costs), as well as the overall cost ranking of alternatives. The Infrastructure costs are positioned in the top segment to allow visual comparison of the Costs to Navy (which exclude Infrastructure Costs) as well as Total Measurable Costs.

3.3 Revised Summary

In section 3.2, the cost summary is done in the same manner as the Battelle cost summary. In examining the Lotus 1-2-3 spreadsheet used by Battelle for the summary, it was noticed that typographical errors or other errors may have prevented Battelle from fully applying the intended methodology. For example, several 30-year annual costs were multiplied by a discount factor of 8.891 rather than 9.891, which is the 30-year cumulative uniform series 10% continuous compounding discount factor. Lost productivity costs were divided by an unexplained factor of 8 (see section 4.5 for detail). Additionally, an apparent misuse of another site's Facility Cost total resulted in the incorrect summation of the Total Measurable Cost for Chicago. Correcting for these results in the REVISED SUMMARY OF COMPARATIVE COSTS tables for all sites and the Revised Total Measurable Costs bar chart shown at the end of this chapter.

CHARACTERISTICS / CITIES	Key Multiplier	Norfolk VA	Richmond VA
Systems Commands			
Military			
- Total Workforce (A)	2,100.00	2,100	2,100
No. of Households (B) (% of A)	0.90	1,890	1,890
No. of School Age Dependents (C) (% of A)	0.62	1,302	1,302
Total number of Personnel and Dependents (D) (A times Multiplier)	2.65	5,565	5,565
Non-payroll (Special Assignment, etc.)			
Total Workforce (A)	1,900.00	1,900	1,900
No. of Households (B)	0.70	1,330	1,330
No. of School Age Dependents (C)	0.62	236	236
Total Number of Personnel and Dependents (D)	1.48	2,812	2,812
Civilian			
Total Workforce (A)	13,000.00	13,000	13,000
No. Relocating (H)		5,000	5,000
No. of Early Outs (Retirement) (E)		1,750	1,600
No. of Separations (Severances) (F)		1,900	1,800
No. of Washington Area Commuters (G)		0	2,700
No. of Households (B)	0.90	11,700	11,700
No. In-migrating (H times Multiplier)	1.40	7,000	7,000
No. of School Age Dependents (C)	0.48	9,984	9,984
No. In-migrating (C*B/I)		5,973	5,973
Total Number of Personnel and Dependents (D)	3.30	42,900	42,900
No. In-migrating (D*B/I)		25,667	25,667
Navy Contractors			
Total Workforce (A)	17000.00	17,000	17,000
No. Relocating (J) (estimated)		10,000	10,000
No. of Households (B)	0.90	15,300	15,300
No. In-migrating (K) (A times Multiplier)	1.20	12,000	12,000
No. of School Age Dependents (C)	0.48	13,056	13,056
No. In-migrating (C*B/K)		10,240	10,240
Total Number of Personnel and Dependents (D)	3.30	56,100	56,100
No. In-migrating (D*B/K)		44,000	44,000

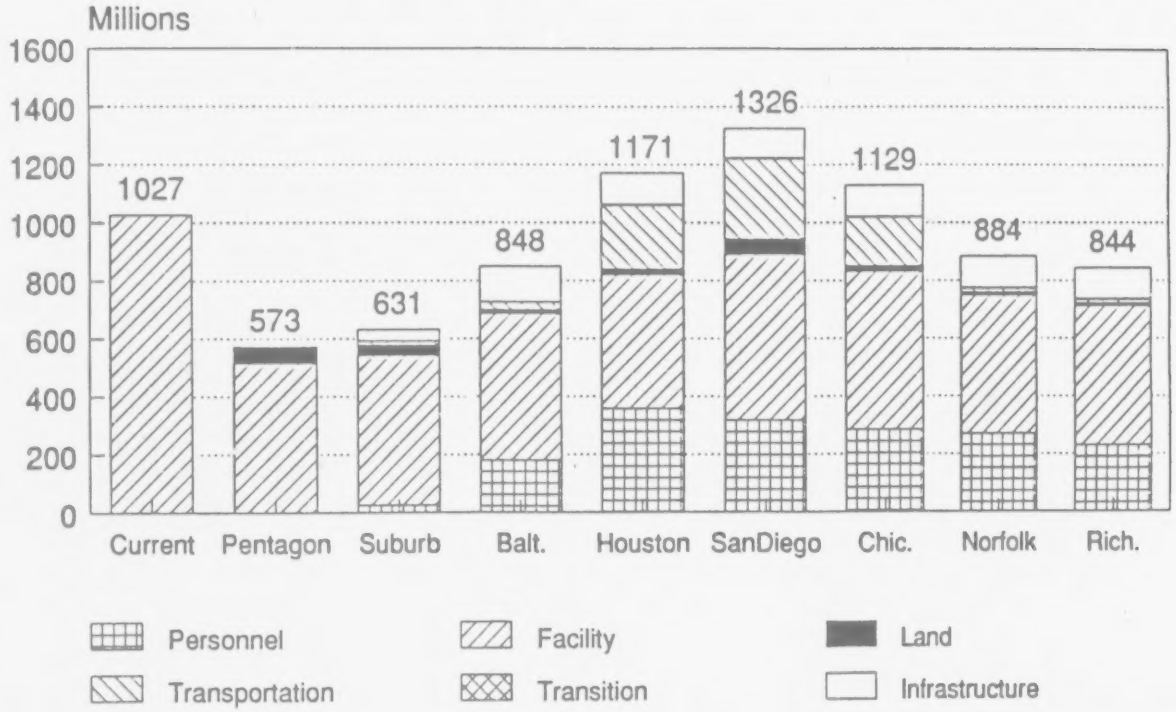
(1) Navy contractors that will or may have to follow the Systems move.

CITIES	Key Multiplier	Norfolk VA	Richmond VA
COSTS (1987 DOLLARS NET PRESENT VALUE)			
Personnel			
Early Out/Retirement	$2,400	$4,200,000	$3,840,000
Separation	$18,000	$34,200,000	$32,400,000
Relocation (A= Site Multiplier Varies)	1	$150,000,000	$145,000,000
Hiring, Training, and Productivity (A)		$104,000,000	$68,900,000
Job Reclassification (A)		($21,549,700)	($19,987,200)
Facility			
Construction			
Office (3,000,000 sq.ft.)	$93	$256,680,000	$259,470,000
Parking (1,8000,000 sq.ft.)	$23,143,000	$21,180,474	$21,421,161
Architecture/Engineering		$18,000,000	$18,000,000
Operations (30-Yr. Costs w/o Util.)	$12,000,000	$142,042,800	$142,042,800
Operations (Utilities--30Yr.)	12	$39,680,441	$39,680,441
Facilities Cost (1)		$477,583,715	$480,614,402
Land			
Acquisition	$0	$8,000,000	$8,000,000
Development (Utilities, Site Work)	$25,000	$2,000,000	$2,000,000
Infrastructure			
Capitol Costs Only			
Schools (per student)	$8,310	$29,502,162	$29,502,162
Other (per capita)	$5,000	$78,044,000	$78,044,000
Transportation Link to Pentagon (30 Yr.)			
Passenger (Air and Ground Traffic)	260	$5,893,810	$1,805,240
Lost Productivity	260	$7,418,250	$10,125,911
Bulk (50 Pkgs. Both Ways Daily)	260	$1,040,247	$1,040,247
Transition			
Moving Equipment (Office)		$3,400,000	$2,830,000
Total Measurable Costs		$883,732,484	$843,914,762
Costs to Navy (Excludes Infrastructure Costs)		$776,186,322	$736,368,600

(1) The facility costs shown are costs to operate and own (1987 net present value).

Crystal City Alternatives Project

Total Measurable Cost



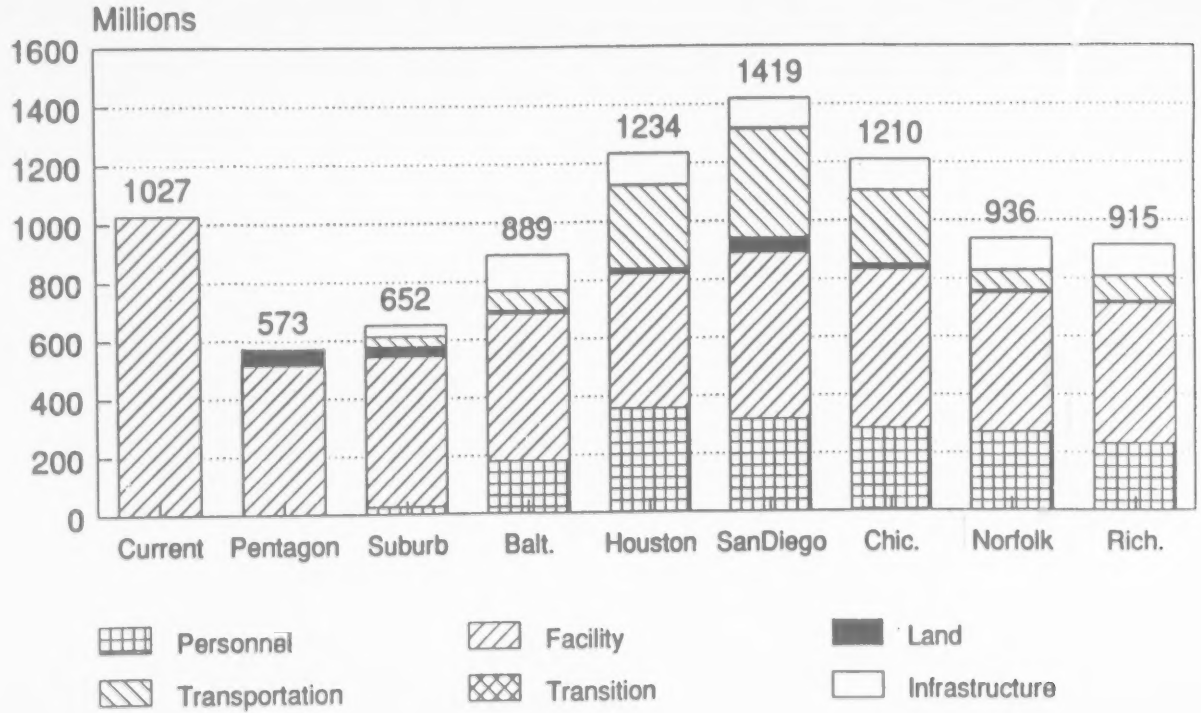
CITIES	Key Multiplier	Washington D.C. (current location)	Washington D.C. (proximity to Pentagon)	Washington D.C. (suburban office park)	Baltimore, MD	Houston, TX	San Diego, CA	Chicago, IL
COSTS (1987 DOLLARS NET PRESENT VALUE)								
Personnel								
Early out/Retirement	$2,400	$0	$0	$0	$3,600,000	$5,640,000	$5,640,000	$5,640,000
Separation	$18,000	$0	$0	$18,000,000	$30,000,000	$45,000,000	$54,000,000	$45,000,000
Relocation (A= Site Multiplier Varies)	1	$0	$0	$0	$98,100,000	$230,850,000	$179,600,000	$156,500,000
Hiring, Training, and Productivity (A)		$0	$0	$11,933,000	$67,353,279	$104,448,000	$108,030,000	$104,448,000
Job Reclassification (A)		$0	$0	($3,288,650)	($18,730,094)	($27,633,928)	($29,858,344)	($27,633,928)
Facility								
Construction								
Office (3,000,000 sq. ft.)	$93	$0	$290,160,000	$290,160,000	$290,160,000	$251,100,000	$332,010,000	$318,000,000
Parking (1,600,000 sq.ft.)	$23,143,000		$24,068,720	$24,068,720	$24,068,720	$20,828,700	$27,540,170	$26,383,020
Architecture/Engineering			$18,000,000	$18,000,000	$18,000,000	$18,000,000	$18,000,000	$18,000,000
Operations (30-Yr. Costs w/o Util.)	$12,000,000		$142,428,000	$142,428,000	$142,428,000	$142,428,000	$142,428,000	$142,428,000
Operations (Utilities--30 Yr.)	12		$39,680,441	$39,680,441	$31,262,946	$29,824,423	$51,815,907	$42,016,260
Facilities Cost (1)		$1,027,000,000	$514,337,161	$514,337,161	$505,919,666	$462,181,123	$571,594,077	$546,887,280
Land								
Acquisition	20	$0	$57,500,000	$34,848,000	$10,454,000	$17,424,000	$52,272,000	$17,424,000
Development (Utilities, Site Work)	$25,000	$0	$500,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Infrastructure								
Capital Costs Only								
Schools (per student)	$8,310	$0	$0	$5,817,000	$33,474,342	$29,502,162	$27,517,734	$29,502,162
Other (per capita)	$5,000			$33,000,000	$88,310,000	$78,044,000	$72,910,000	$78,044,000
Transportation Link to Pentagon (30 Yr.)								
Passenger (Air and Ground Traffic)	260	$0	$0	$10,800,972	$19,441,750	$209,976,039	$296,923,864	$177,444,540
Lost Productivity	260	$0	$0	$23,704,000	$46,736,000	$72,800,000	$72,800,000	$72,800,000
Bulk (50 Flgs. Both Ways Daily)	260	$0	$0	$0	$1,157,247	$1,157,247	$1,157,247	$1,157,247
Transition								
Moving Equipment (Office)			$468,000	$520,000	$878,880	$3,095,820	$4,758,520	$1,255,540
Total Measurable Costs		$1,027,000,000	$572,805,161	$651,691,483 - $889,294,990		$1,234,484,463	$1,419,345,098	$1,210,468,841
Costs to Navy (Excludes Infrastructure Costs)		$1,027,000,000	$572,805,161	$612,874,483	$767,510,648	$1,126,938,301	$1,318,917,364	$1,102,922,679

CITIES	Key Multiplier	Norfolk VA	Richmond VA
COSTS (1987 DOLLARS NET PRESENT VALUE)			
Personnel			
Early Out/Retirement	$2,400	$4,200,000	$3,840,000
Separation	$10,000	$34,200,000	$32,400,000
Relocation (A= Site Multiplier Varies)	1	$150,000,000	$145,000,000
Hiring, Training, and Productivity (A)		$104,000,000	$98,000,000
Job Reclassification (A)		($21,549,700)	($19,987,200)
Facility			
Construction			
Office (3,000,000 sq.ft.)	$93	$256,680,000	$250,470,000
Parking (1,6000,000 sq.ft.)	$23,143,000	$21,189,474	$21,421,161
Architecture/Engineering		$18,000,000	$18,000,000
Operations (30-Yr. Costs w/o Util.)	$12,000,000	$142,042,800	$142,042,800
Operations (Utilities--30Yr.)	12	$30,880,441	$30,880,441
Facilities Cost (1)		$477,563,715	$480,814,402
Land			
Acquisition	$0	$0,000,000	$0,000,000
Development (Utilities, Site Work)	$25,000	$2,000,000	$2,000,000
Infrastructure			
Capitol Costs Only			
Schools (per student)	$8,310	$29,502,102	$29,502,102
Other (per capita)	$5,000	$78,044,000	$78,044,000
Transportation Link to Pentagon (30 Yr.)			
Passenger (Air and Ground Traffic)	200	$5,828,200	$1,605,240
Lost Productivity	200	$50,340,000	$81,007,200
Bulk (50 Pkgs. Both Ways Daily)	200	$1,157,247	$1,157,247
Transition			
Moving Equipment (Office)		$3,400,000	$2,830,000
Total Measurable Costs		$935,711,714	$914,913,141
Costs to Navy (Excludes Infrastructure Costs)		$828,165,552	$807,366,979

(1) The facility costs shown are costs to operate and own (1987 net present value).

Crystal City Alternatives Project

Revised Total Measurable Cost



Cost Factors 4.0

4.1 Personnel Cost Derivation

The Personnel cost categories are: Early Out/Retirement; Separation; Relocation; Hiring, Training, and Productivity; and Job Reclassification.

The Battelle report indicated that additional Early Out retirements for sites other than the Washington area would occur due to retirees avoiding a long commute or the problem of relocating. Battelle assumed that 1,500 personnel would take this option instead of relocating to Baltimore and that 2,350 would retire rather than relocating to Chicago, Houston, or San Diego. To extend the comparison to Richmond and Norfolk for this report, it was assumed that Early Outs would be proportional to distance (just as the Battelle report assumed that number of personnel relocating would be inversely proportional to distance). The distances from Washington to Richmond and Norfolk are greater than the distance from Washington to Baltimore and less than the distance from Washington to Chicago, so Early Outs were estimated by interpolating between the numbers assumed for Baltimore and Chicago.

Interpolations between Battelle estimates were made based on road mileages between Washington (Arlington) and Baltimore, Richmond, and Norfolk from the Rand McNally Road Atlas and air distances from the Rand McNally Commercial Atlas & Marketing Guide (98th Edition):

Washington to:	Distance(Miles)
Baltimore	37
Richmond	105
Norfolk	199
Chicago	597

Richmond Early Outs = 1500+((105–37)/(597–37))x(2350–1500)
= 1500 + 0.12143 x 850
= 1603, rounded to 1600

Norfolk Early Outs = 1500+((199–37)/(597–37))x(2350–1500)
= 1500 + 0.29 x 850
= 1746.5, rounded to 1750

These numbers are multiplied by the same $2,400 cost per person assumed in the Battelle report.

For separations, similar interpolations were made between the 1,700 assumed for Baltimore and the 2,500 assumed for Chicago. The resulting estimates to be multiplied by the $18,000 cost per separation are 1,800 for Richmond and 1,900 for Norfolk.

The derivations for several cost factors were not documented in the Battelle report, and contacts at Battelle were unable to provide the derivations. These factors include Relocation; Hiring, Training, and Productivity; and Job Reclassification costs among the personnel costs. However, it was possible to calculate comparable estimates for Richmond and Norfolk by maintaining proportionality with the stated cost determinants.

For Relocation cost, the Battelle report sites the Crystal City Alternatives Project Office as their source. The costs vary depending on the destination. They define the costs, or relocation allowances, as the maximum allowable expenses that can be incurred by individual households. The number of employees expected to relocate also varies depending on the destination. The relocation allowances and number of personnel expected to relocated cited in the report were:

Relocation Allowances

From Washington to:

Site	Cost/Employee	Employees
Baltimore	$24,500	5,000
Houston	$46,000	5,000
San Diego	$49,000	4,000
Chicago	$35,000	5,000

To perform a comparative analysis for the Norfolk and Richmond sites it was assumed that 5,000 employees would choose to relocate to both alternatives. The above costs were not however, the costs that were used in Battelle's Lotus 1-2-3 spreadsheet analysis. There was no consistent relationship between the costs that were cited and the costs that were actually used, such as some percentage. Thus in order to produce comparable costs for the Norfolk and Richmond sites the fractions of the maximum allowable expense that were actually used in the report were calculated and were found to be:

Relocation Costs
From Washington to:

Site	Cost Used	Fraction of Maximum
Baltimore	$19,620	0.816
Houston	$46,170	1.004
San Diego	$44,900	0.916
Chicago	$31,300	0.894

Thus an average fraction was calculated to be 0.85. Maximum allowable expenses to relocate to Norfolk and Richmond were obtained from the Office of Civilian Personnel Management to be $35,000 for Norfolk and $34,000 for Richmond. Multiplying these by a factor of 0.85 to remain consistent with the Battelle report, the relocation costs used were $30,000 for Norfolk and $29,000 for Richmond.

For Hiring, Training, and Productivity costs, the Battelle report states that cost factors were based upon the number of people expected to be hired for each level of the GS/GM salary structure. Details of the calculations were unavailable from Battelle, and the Lotus 1-2-3 spreadsheet provided by Battelle contained only results, not calculations. However, by dividing Battelle's site cost estimates by the number to be hired, bounds can be placed on the costs per person hired as follows:

Site	Cost	No. Hired	Cost/Person
Washington	$11,933,000	1,000	$11,933
Baltimore	$67,353,279	5,200	$12,952
Houston	$104,448,000	8,000	$13,056
San Diego	$108,030,000	9,000	$12,033
Chicago	$104,448,000	8,000	$13,056

Accordingly, a Hiring, Training, and Productivity cost of $13,000 per person hired was assumed for the Richmond and Norfolk sites. This cost was applied to 8,000 persons for Richmond and 5,300 for Norfolk. (The number to be hired is based on total billets less those relocating and, for Baltimore and Richmond, less those who will commute to the new job site from their present residences.)

The Job Reclassification savings in the Battelle report reflect replacement personnel being hired at lower steps within a GS scale grade than the personnel they replace. The report states that cost savings were computed based on the assumption that positions left vacant by the early retirees and those separated would be filled at the lowest step within a grade. Again, documentation of these computations was not available from Battelle. However, a range of savings per replacement was inferred from the data provided in the Battelle report.

For Houston, San Diego, and Chicago, the number of Early Outs is the same, but Separations are 3,000 for San Diego and 2,500 for Houston and Chicago. Houston and Chicago were estimated to have exactly the same Job Reclassification savings. Therefore, the difference in savings can be presumed to be due to the difference in separations. Dividing the difference in savings by the difference in separations yields one estimate of the marginal savings per separation:

($29,898,344 – $27,633,928)/(3,000 people – 2,500 people) = $4,528 per person

Similarly, the Washington suburban site savings of $3,268,650 are due to the 1000 Separations, since there are no Early Outs for this site. This yields an estimate of $3,269 per person.

These estimates of Separation savings per person can be used to calculate a range of Early Out savings per person. Comparing Houston and Baltimore, a total savings difference of $8,903,834 is due to a difference of 850 Early Outs and 800 Separations. Using a range of $3,260 to $4,528 per person for the 800 Separations yields $2,615,200 to $3,622,400 in Separations Job Reclassification savings. Subtracting these from the total savings difference results in a range of $5,281,434 to $6,288,634 for the 850 Early Outs difference. This corresponds to $6,213 to $7,398 per Early Out. These ranges were then checked against the total Battelle estimate for San Diego. Using

the lower end of each range for the 2,350 Early Outs and 3,000 separations for San Diego results in $24,407,550 in Job Reclassifications savings, while using the higher end of each range results in $30,929,300, which compares to the Battelle estimate of $29,858,344. Using combinations of the higher Early Out savings and the lower Separation savings, and vice-versa, would yield estimates of $27,192,000 and $28,184,550, respectively, for San Diego.

For the Richmond and Norfolk sites in this report, the higher range end values of $7,398 per Early Out and $4,528 per Separation were used.

4.2 Facility Cost Derivation

Construction costs listed in the Battelle report were derived by estimating office costs per square foot ($93) and total parking facility costs ($23,143,000) for a site with an area cost factor of 1.0 and then multiplying by an area cost factor for each of the alternative sites examined. The area cost factor used was 1.04 for all Washington, D.C. sites: current location, proximity to Pentagon, and suburban office park. This method has been extended to the Richmond and Norfolk suburban office sites by using the following area cost factors from MIL-HDBK-1010/1, Cost Engineering: Policy and Procedures, of 30 September 1988:

Area Cost Factors

Site	Factor
Norfolk	0.90
Norfolk Area	0.92
Richmond	0.93
Arlington	1.04
Washington, D.C.	1.04

Because the location is suburban and not in the city of Norfolk, the Norfolk area cost factor of 0.92 was used.

Architecture/Engineering costs are assumed to be $18,000,000 for Richmond and for Norfolk, just as this cost was assumed for all relocation site alternatives examined in the Battelle report.

The Battelle study also assumed that 30 year operations costs, exclusive of utilities costs, were the same for all relocation sites. The operations costs used in the Battelle report were applied to Richmond and Norfolk.

Utilities costs vary by site. The electricity demand, provider, and rate structure, however, are the same for all Virginia site alternatives, so the same cost used in the Battelle report for "Washington" alternatives (proximity to Pentagon and suburban) was applied to the Richmond and Norfolk sites.

4.3 Land Cost Derivation

An estimate of $100,000 acquisition cost per acre for suburban office park property was applied to both the Norfolk and Richmond sites. The estimate was furnished by Jim Burden, Appraiser for Atlantic Division, Naval Facilities Engineering Command. This was applied to an 80 acre site, using

the same Floor Area Ratio of 0.5 that was used for all suburban sites other than the proximity to the Pentagon site in the Battelle comparison. A site development cost of $25,000 per acre was used for Richmond and Norfolk; this estimate was used for all sites in the Battelle comparison.

4.4 Infrastructure Cost Derivation

Infrastructure capital costs listed in the Battelle report are dependent upon the spatial distribution of the incoming Naval, government civilian, and contractor residences and upon the capacity of the area to accept in-migrants. They also mention other indirect infrastructure costs to the jurisdiction(s) that would host such a complex such as the provision of services to the complex and to any collocating services and contractor office buildings nearby. Battelle assumed the spatial distribution of in-migrating government, civilian and contractor residences around these sites will be dispersed, based on the availability of housing and housing costs. A factor of twenty percent

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was used to estimate the number of in-migrants that would locate within the school district and community that hosts the site and require infrastructure expenditures. Costs for schools is assumed to be $8,310 per in-migrating student, while the other infrastructure construction costs are about $5,000 per capita in-migrating. In-migrating students were taken from the number of in-migrating school age dependents of the military, non-payroll, civilian and Navy contractor workforces. All of the school age dependents of military personnel are considered in-migrating. The total number of personnel and dependents in-migrating was taken from the total number of in-migrating personnel and dependents from the military, non-payroll, civilian and Navy contractor workforces. All military personnel and dependents were considered in-migrating.

4.5 Transportation Cost Derivation

Transportation costs represent the cost to the government for average daily travel between the new location and the Pentagon over a thirty year period. Battelle assumed there were two hundred and sixty work-days in a year. Passenger costs are dependent upon the number of personnel traveling and the cost of travel to and from the pentagon. Norfolk's transportation cost is based on air travel alone, while Richmond's cost is a combination of air and ground travel. Airline costs used were the round trip coach fair at a government rate. Ground travel costs used were those effective at the time of the Battelle study. The number of personnel requiring travel between the new location and the Pentagon was inversely proportional to the distance between the two sites. The number of people required to travel from the Norfolk and Richmond sites to the Pentagon was calculated by interpolating the number of people Battelle assumed were required to travel from Baltimore and Chicago to the Pentagon. Using the 115 assumed for Baltimore and the 300 assumed for Chicago, the resulting estimates were 250 to Norfolk and 280 to Richmond.

Lost Productivity is the cost of time spent on travel. It is based on the number of people traveling, their average salary, and the traveling time. As the distance increases, the number of personnel required to travel decreases but their average rank increases. This has the effect of increasing the average salary of the personnel required to travel as the distance increases. The average salaries were also computed by interpolating the average salaries Battelle used for Baltimore and Chicago. Using the $64,000 for Baltimore

and the $42,000 for Chicago, the resulting estimates were $48,000 for Norfolk and $45,000 for Richmond. The time spent on travel was accounted for by multiplying the product of the people traveling and their average salary by the fraction of the work day spent on travel. The factor used for Norfolk was 0.75 of a day if traveling by car and 0.50 of a day if flying, for Richmond, since all travel was assumed to be by car, the time spent in travel was 0.50 of a day. This was consistent with Battelle's assumption that time spent on travel between the Pentagon and Baltimore was 0.375 of a day and between the Pentagon and Chicago was an entire day.

The calculation of lost productivity for the Battelle study included an extra divisor. Battelle divided the above factors by eight. Contacts from within Battelle were unable to explain this factor, and it was believed to have been an error. This apparently erroneous factor was also included in the first version of the Norfolk/Richmond study to make the comparisons consistent. The revised version shows the effect this error had on the study.

The Bulk Transportation cost is the cost of sending 50 packages, both ways between the Pentagon and the new site, daily. This factor was a constant for all sites considered, ($1,040,247), since it is dependent only upon the number of packages sent.

4.6 Transition Cost Derivation

The transition costs represent the cost of moving office equipment (desks, credenzas, files, chairs, bookcases, personal computers, etc.) based on the Battelle assumption that the average weight to be shipped for the 17,000 employees would be slightly greater than 1,400 lbs. The cost estimates for the Norfolk and Richmond sites were obtained from American Security United Van Lines. Their cost estimates were $3,000 per truck-load for Norfolk and $2,500 per truck-load for Richmond. These figures were based on the estimated cost of shipping 21,000 lb. truckloads to each site. Thus, total cost estimates used were:

for Norfolk:

1,400 lb/employee x 17,000 employees = 23,800,00 lb
23,800,000 lb / 21,000 lb/truckload = 1134 truckloads
1134 truckloads x $3,000 /truckload = $3,400,000

for Richmond:

1,400 lb/employee x 17,000 employees = 23,800,000 lb
23,800,000 lb / 21,000 lb/truckload = 1134 truckloads
1134 truckloads x $2,500 /truckload = $2,830,000

Conclusion 5.0

The Battelle-Columbus study report concluded that on the basis of cost comparisons, Washington, D.C., would be the most cost efficient metropolitan location for a consolidated Naval Systems Commands facility. This was based on a comparison of representative metropolitan areas in different regions of the continental United States. The results from applying the cost methodology to alternative sites within the Commonwealth of Virginia, which meet the screening criteria of the Battelle report, do not change this conclusion. Calculating comparative relative costs for Richmond and Norfolk results in cost estimates higher than those for a Baltimore site and less than those for a Chicago site.

These relative cost comparisons are subject to the same caveats and limitations expressed in the Battelle-Columbus report, as well as to additional ones detailed in this report.

Appendix A

Final Report on Feasibility Study of a Navy Relocation

(Battelle Report)

FINAL REPORT

on

FEASIBILITY STUDY OF A NAVY RELOCATION

to

DEPARTMENT OF THE NAVY

CRYSTAL CITY ALTERNATIVES PROJECT

March 11, 1988

by

Dr. Charles W. Minshall
Dr. Robert L. Hines

BATTELLE
Columbus Division
505 King Avenue
Columbus, Ohio 43201

Final Report

On

FEASIBILITY STUDY OF A NAVY RELOCATION

To

Department of the Navy
Crystal City Alternatives Project

INTRODUCTION

The Navy has requested a comparative cost analysis of locations in and around Washington, D.C. and other representative settings in the Continental U.S. which could serve as a potential site for the five Naval Systems Commands and their support organizations. The Navy is considering relocating and consolidating (collocating) these integrated groups in order to maximize their ability to perform their mission for the Secretariat Staffs of the Secretary of the Navy and the office of the Chief of Navy Operations.

The research described in this project represents an objective and systematic appraisal by Battelle-Columbus. However, the project was not carried out in isolation and certain types of information concerning facility demands, current operating cost patterns, and personnel information were provided to Battelle as background information. The factors which follow in Table 1 serve to describe the operational attributes of the proposed Navy facility. These requirements represent attributes and resources that potential sites and communities must be able to meet, if they are to be considered viable.

An initial screening of cities was necessary in order to identify areas that would be potential candidates. Metropolitan areas of less than one million population were excluded because they would be highly unlikely to possess the required labor force pool. While many metropolitan areas could meet this criteria, it was decided that the study could illustrate relative differences by selecting a few cities that had the appropriate characteristics and which were in different regions of the country. The metropolitan areas chosen were: Washington, D.C.; Baltimore, MD.; Chicago, IL.; Houston, TX.; and San Diego, CA.

COMPARATIVE COST ANALYSIS

This section presents comparative costs for the different siting options. Because no specific sites or buildings have been identified these costs are not all inclusive, but they do demonstrate the relative magnitude of the probable expenses associated with each location. The major assumptions

TABLE 1. CONSOLIDATION REQUIREMENTS

Personnel	
Total Employment	17,000
Civilian Employment	13,000
Military Employment	2,100
Non-payroll (Interns, Trainees)	1,900
Utility/Space Requirements	
Office Space	3,000,000 Sq.Ft.
Parking, Recreational, Retail Child Care, etc	2,800,000 Sq.Ft.
Utility/Infrastructural Needs Power Demand	45,000,000 KWH/year
Site, Setting and External Requirements	
Site Size (depends on allowable floor to area ratio)	20-80 Acres
Transportation and Communications	
Access to the Pentagon (Persons Daily)	
Location outside Washington Area	115
Location within Washington Area	2,300
Bulk Mail (Packages Daily To and From)	100

Source: Battelle--based on Department of the Navy input.

associated with this cost estimate are as follows:

- The number of individuals expected to relocate will be related inversely to the distance between Washington and the new location.
- There will be no personnel relocation costs for the military because they probably will

be rotated into the new location. However, relocated military personnel will be considered when evaluating demands on community infrastructure.

- The facility may include five or six Class "A" office buildings and 4 parking garages which have retail and recreational space.

- Except for the generic Pentagon location in Washington, D.C., the land required is assumed to be in suburban areas. These sites will be in the equivalent of Class "A" Office (mixed use; Parks.

- National security cost implications for each candidate location will not be addressed by this analysis.

- Access to utilities and services for these generic sites is assumed to be immediately available.

- The Washington D.C. suburban generic location is assumed to be in Fairfax County where the density of current employees is the greatest and where optimal access to the Pentagon could be maintained. Locations in Prince Georges County were considered initially but were eliminated because needed infrastructure was not in place, problems with bridge traffic were anticipated, and the alternative locations were so distant from existing facilities that relocation costs might be incurred.

- The spatial distribution of in-migrating government/civilian and contractor residences around these sites will be disperse, based on the availability of housing and housing costs. However, for this analysis it was estimated that 20 percent would locate within the school district and community that hosts the site. These in-migrants were assumed to require the construction of schools, streets, recreational facilities, fire and police stations, water and sewer, and other infrastructure.

- Ground transportation costs are assumed to occur between the suburban Washington site and the Pentagon and between Baltimore and the Pentagon. The other cities transportation costs are based on air travel only.

Estimating the Costs

The costs of insuring that the facility would be staffed by capable personnel are based on a number of assumptions about the number and type of positions that would be available if the Commands moved. The costs of relocation, severance, and early retirement were based on federal requirements. These costs were generated by multiplying the expected number of persons in each of these categories. Table 2 provides information about the current number of personnel employed by the Systems Commands and estimates of the number of relocatees, in-migrating student population, and total in-migrants that could be attracted to a particular location. The percentages and multipliers used were based Department of Energy project office relocation data. The comparison costs associated with the alternatives are presented in Table 3. Net present values were calculated for 30-year costs using a discount rate of 10 percent. These costs (expressed as 1987 dollars) are summarized below:

Personnel Costs. "Personnel Costs" (Table 3) include factors related to retirement, separation, relocation, and various other expenses. For "retirement" it is anticipated that it will cost about $2,400 per person that chooses to retire early. In regard to this, it is assumed that there would be no more early retirees than is normally processed in the Washington area; but 1500 will take this option instead of relocating to Baltimore, and 2350 will use this option instead of moving to Houston, San Diego, or Chicago. The retirees resulting from the Baltimore choice will do so to avoid a long commute or the problem of relocating.

"Separation" expenses are expected to average $18,000 per person. No separations, and hence no expenses, will be incurred if the location remains near the Pentagon, however it is assumed that a suburban location may cause up to 1000 employees, who will live further from the new location, to seek other employment. In regard to the other cities, it is anticipated that 1,700 will separate if Baltimore is chosen, 2,500 if Houston is chosen, 3,000 if it is located in San Diego, and 2,500 if Chicago is selected.

The per employee "relocation" expenses used in this analysis were provided by the Crystal City Alternatives Project Office. The costs vary depending on the destination. Relocation allowances (these are the maximum allowable expenses that could be incurred by individual households) from Washington to Baltimore were $24,000, to Houston this totaled $46,000, to San Diego it was $49,000, and from Washington to Chicago it was $35,000. The number of employees expected to relocate to each of the cities are: 5,000 for Baltimore, Houston, and Chicago, while San Diego would receive 4,000. The costs associated with relocations are presented in Table 3. The cost factors for "recruitment, hiring, training and productivity" were assessed based on the number of people expected to be hired for each level of the GS/GM salary structure. The resulting costs appear in Table 3.

The "job reclassification" factor may result in a significant savings. This reflects the fact that replacement personnel at lower steps

TABLE 2. SUMMARY OF WORKFORCE CHARACTERISTICS

CHARACTERISTICS / CITIES	Key Multiplier	Washington D.C. (current location)	Washington D.C. (proximity to Pentagon)	Washington D.C. (suburban office park)	Baltimore, MD	Houston, TX	San Diego, CA	Chicago, IL
Systems Commands								
Military								
Total Workforce (A)	2100.00	2,100	2,100	2,100	2,100	2,100	2,100	2,100
No. of Households (B) (% of A)	0.90	1,890	1,890	1,890	1,890	1,890	1,890	1,890
No. of School Age Dependents (C) (% of A)	0.69	1,302	1,302	1,302	1,302	1,302	1,302	1,302
Total Number of Personnel and Dependents (D) (A times Multiplier)	2.66	5,585	5,585	5,585	5,585	5,585	5,585	5,585
Non-payroll (Special Assignment, etc.)								
Total Workforce (A)	1000.00	1,000	1,000	1,000	1,000	1,000	1,000	1,000
No. of Households (B)	0.70	1,330	1,330	1,330	1,330	1,330	1,330	1,330
No. of School Age Dependents (C)	0.02	230	230	230	230	230	230	230
Total Number of Personnel and Dependents (D)	1.46	2,812	2,812	2,812	2,812	2,812	2,812	2,812
Civilian								
Total Workforce (A)	19000.00	19,000	19,000	19,000	19,000	19,000	19,000	19,000
No. Relocating (M) (E+F+G)		0	0	0	6,000	6,000	4,000	6,000
No. of Early Outs (Retirement) (E)		0	0	0	1,500	2,350	2,350	2,350
No. of Separations (Severances) (F)		0	0	1,000	1,700	2,500	3,000	2,500
No. of Washington Area Commuters (G)		19,000	19,000	19,000	2,000	0	0	0
No. of Households (B)	0.90	11,700	11,700	11,700	11,700	11,700	11,700	11,700
No. In-migrating (N times Multiplier)	1.40	0	0	0	7,000	7,000	5,000	7,000
No. of School Age Dependents (C)	0.46	9,964	9,964	9,964	9,964	9,964	9,964	9,964
No. In-migrating (C*B/I)		0	0	0	5,973	5,973	4,779	5,973
Total Number of Personnel and Dependents (D)	3.30	42,000	42,000	42,000	42,000	42,000	42,000	42,000
No. In-migrating (D*B/I)		0	0	0	26,867	26,867	20,533	26,867
Navy Contractors (1)								
Total Workforce (A)	17000.00	17,000	17,000	17,000	17,000	17,000	17,000	17,000
No. Relocating (J) (estimated)		0	0	0	10,000	10,000	10,000	10,000
No. of Households (B)	0.90	15,300	15,300	15,300	15,300	15,300	15,300	15,300
No. In-migrating (K) (A times Multiplier)	1.20	0	0	0	12,000	12,000	12,000	12,000
No. of School Age Dependents (C)	0.48	13,056	13,056	13,056	13,056	13,056	13,056	13,056
No. In-migrating (C*B/K)		0	0	0	10,240	10,240	10,240	10,240
Total Number of Personnel and Dependents (D)	3.30	56,100	56,100	56,100	56,100	56,100	56,100	56,100
No. In-migrating (D*B/K)		0	0	0	44,000	44,000	44,000	44,000

(1) Navy contractors that will or may have to follow the Systems move.

TABLE B. SUMMARY OF COMPARATIVE COSTS

CITIES	Key Multiplier	Washington D.C. (current location)	Washington D.C. (proximity to Pentagon)	Washington D.C. (suburban office park)	Baltimore, MD	Houston, TX	San Diego, CA	Chicago, IL
COSTS (1987 DOLLARS NET PRESENT VALUE)								
Personnel								
Early out/Retirement	$2,400	$0	$0	$0	$3,000,000	$5,640,000	$5,640,000	$5,640,000
Separation	$10,000	$0	$0	$10,000,000	$30,000,000	$45,000,000	$64,000,000	$45,000,000
Relocation (An Site Multiplier Varies)	1	$0	$0	$0	$90,100,000	$230,850,000	$179,600,000	$150,500,000
Hiring, Training, and Productivity (A)		$0	$0	$11,933,000	$67,363,270	$104,440,000	$100,830,000	$104,440,000
Job Reclassification (A)		$0	$0	($3,700,660)	($10,730,004)	($27,033,920)	($29,060,344)	($27,033,920)
Facility								
Construction								
Office (3,000,000 sq. ft.)	$93	$0	$290,100,000	$290,100,000	$290,100,000	$251,100,000	$332,010,000	$310,060,000
Parking (1,000,000 sq.ft.)	$23,143,000		$24,060,720	$24,060,720	$24,060,720	$20,020,780	$27,640,170	$20,303,020
Architecture/Engineering			$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000
Operations (30-Yr. Costs w/o Util.)	$12,000,000		$142,420,000	$142,420,000	$142,420,000	$142,420,000	$142,420,000	$142,420,000
Operations (Utilities--30 Yr.)	12		$39,000,441	$39,000,441	$31,202,940	$29,024,423	$51,015,987	$42,010,200
Facilities Cost (1)		$1,027,000,000	$614,337,101	$614,337,101	$606,019,000	$460,101,123	$571,594,077	$540,007,200
Land								
Acquisition	$0	$0	$57,600,000	$34,040,000	$10,454,000	$17,424,000	$52,272,000	$17,424,000
Development (Utilities, Site Work)	$20,000	$0	$600,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Infrastructure								
Capital Costs Only								
Schools (per student)	$8,310	$0	$0	$6,017,000	$33,474,342	$20,502,102	$27,517,734	$29,502,102
Other (per capita)	$6,000			$33,000,000	$00,010,000	$70,044,000	$72,910,000	$70,044,000
Transportation Link to Pentagon (30 Yr.)								
Passenger (Air and Ground Traffic)	200	$0	$0	$10,000,972	$10,441,750	$200,970,030	$200,004,204	$100,004,540
Lost Productivity	200	$0	$0	$2,003,000	$5,042,000	$9,100,000	$9,100,000	$9,100,000
Bulk (20 Trips. both Ways Daily)	200	$0	$0	$0	$1,040,247	$1,040,247	$1,040,247	$1,040,247
Transition								
Moving Equipment (Office)			$400,000	$020,000	$070,000	$3,006,020	$4,750,520	$1,200,540
Total Measurable Costs		$1,027,000,000	$672,005,101	$030,060,403	$040,203,000	$1,170,007,403	$1,320,500,400	$1,104,005,044
Costs to Navy (Excludes Infrastructure Costs)		$1,027,000,000	$672,005,101	$002,133,403	$720,400,040	$1,003,121,301	$1,225,000,704	$000,450,002

(1) Facility costs for status quo are the thirty-year rent equivalent costs (1987 net present value). The facility costs shown for the other locations are costs to operate and own (1987 net present value).

of the GS scale will be selected to fill new positions. The cost savings were computed based on the assumption that positions left vacant by the early retirees and those who were separated would be filled at the lowest step within a grade.

By way of summary, the personnel relocation costs associated with the selected locations are:

- Washington D.C., Status Quo and Close to Pentagon = $0
- Washington Suburban = $26,664,000
- Baltimore= $180,923,000
- Houston= $358,304,000
- San Diego= $317,412,000
- Chicago= $283,954,000

Construction Costs. Construction costs estimates were developed based on current metropolitan values listed in the Marshall Valuation Service (1987) and cost compiled in Building Design and Construction (1988). The "Architectural/Engineering" costs were based on the assumption that the office buildings would be similar and the parking/retail structures would have the same basic design. These include survey, soil testing, incidentals, and special consultants costs. "Utility" costs were estimated based on kwh/sq. ft. for large office buildings, using Energy Information Administration (1987) data.

Approximately 3,000,000 sq.ft. of office space will be required. The approximate construction costs per sq. ft. in the selected cities are: Washington--$96.72, Baltimore--$96.72, Houston--$83.70, San Diego--$110.67, and Chicago--$106.02. These costs are summarized in Table 3; with Houston having the least cost and San Diego the highest. The costs related to the parking follows the same general pattern. For this type of structure the average per sq. ft. costs in Washington were $15.04, Baltimore--$15.04, Houston--$13.02, San Diego--$17.21, and Chicago--$16.49. When the total of office and parking space are combined the following pattern emerged:

- Washington = $314,229,000
- Baltimore = $314,229,000
- Houston = $271,929,000
- San Diego = $359,550,000
- Chicago = $344,443,000

Land Costs. Current suburban land costs were acquired from the Urban Land Institute and from a private real estate service. These costs are extremely variable within and between metropolitan areas, so some degree of caution should be used when comparing land costs. Site development costs depend on the distance to utilities, floor to area ratios and many other factors. Some developers use an estimate of $25,000 to $35,000 per acre to accomplish site development. This analysis used $25,000 per acre for all of the sites. The suburban sites were assumed to have a floor-to-area ratio (FAR) of .5, while the site close to the Pentagon had an FAR of 3.0. In regard to site purchase price, the following average planning costs were used:

- Washington-Close to the Pentagon = $57,500,000 *
- Washington-Suburb = $34,848,000
- Baltimore = $10,454,000
- Houston = $17,424,000
- San Diego = $52,272,000
- Chicago = $17,424,000

* Assumes that an appropriate site is available

Infrastructure Costs. Infrastructure capital costs are not easily forecast because they depend on the spatial distribution of the incoming Naval, government civilian, and contractor residences and upon the capacity of the area to accept in-migrants. There could also be other indirect infrastructure costs to the jurisdiction(s) that would host such a complex such as the provision of services to the complex and to any collocating services and contractor office buildings nearby.

As is noted in Table 3, costs for schools is assumed to be $8,310 per student, while the other infrastructure construction costs are about $5,000 per capita.

Transportation Costs. Transportation costs for bulk mail were based on a per package rate. Airline costs used the average for round trip coach fare. Loss of productivity costs were based on increased transportation time to the Pentagon.

Transition Costs. The costs of moving office equipment (desks, credenzas, files, chairs, bookcases, personal computers) were based on the assumption that the average weight to be shipped for the 17,000 employees would be slightly greater than 1400 lbs. Industry standards were used to determine the approximate costs.

Comparative Cost Evaluation

The costs of locating the Systems Commands outside the Washington, D.C. area would be nearly twice as large as the cost of remaining. Based on the cost analysis there is no evidence to suggest that cities outside Washington would be viable alternatives. Although specific parcels of land were not evaluated, it does appear that the cost estimates for locating near the Pentagon are not appreciably different from the costs attributable to locating in a Virginia suburb (assuming that suitable land near the Pentagon is available). While there would be lower land acquisition costs associated with a suburban location, there would also be higher transportation and personnel expenses related to a suburban move. The relative costs borne by the Navy (excludes community infrastructure costs) for each of the alternatives to the current situation are listed as follows:

- Washington (near the Pentagon) = $ 572 million
- Washington (Virginia suburban) = $ 592 million
- Baltimore = $ 726 million
- Houston = $ 1,063 million
- San Diego = $ 1,225 million
- Chicago = $ 996 million

Cost Burden

The Department of the Navy would bear the responsibility for most of the cost expenditures listed in Table 3. It is important to note that the facility constructed may not be owned by the Federal Government, but by private developer(s). If this is the case, the owners will recover their construction, operation, and financing costs through a lease arrangement. Because of the volatility in several local real estate markets (such as Houston), it is not possible to obtain precise data on long-term lease rates. These costs would be higher than the acquisition, construction, and operation costs mentioned in Table 3, but they would also parallel the patterns of these costs.

The other major expenditures listed that might not be directly borne by the Navy would include the capital costs associated with upgrading or building new infrastructure in the communities that could be impacted. If such community impact costs are assessed to the developer (i.e. through performance zoning requirements), they could be passed on to the Navy. Some of the school building costs could also be recovered through the Aid to Federally Impacted School Systems Program. There would also be a loss of tax revenues on the land if it is owned by the federal government. Other tax revenue from collocating private facilities (hotels, offices, equipment supply firms, etc.) could offset some of that loss.

Other Key Costs

There are a number of important considerations that can not be easily measured in terms of dollars. Perhaps the most important such cost would be the social and psychological costs of moving people away from their established support networks (from their friends, classmates, neighbors, family members, etc.). There are also psychological costs that will be experienced by those individuals who can not or will not relocate. Some will be unemployed, some will have problems adjusting to their changed circumstance. In regard to this study, it is clear that the personal and psychological impacts will be eliminated if the final site is selected in the Washington area. It is likely that the personal and household negative impacts will increase with distance from Washington as the "costs" associated with calls, visits, and separations increase. Baltimore is probably the external choice least likely to present serious dislocation problems.

Navy contractors would also have to move to be near the new facility, and they would be subject to many of the relocation costs mentioned for the Navy. Relocating to other cities would also result in the termination

of local Washington, D.C. service contracts. That is, there is a very large number of private sector firms, and some government agencies, that are directly dependent on proximity to the Navy; and again--the negative impacts associated with the move will be minimized the closer the final choice is to the Pentagon and the immediate Washington area.

Inefficiency costs are also difficult to measure because they must be valued based on the effect they could have on national security. Despite the fact that they are difficult to measure, several deserve to be considered. First, there is an inefficiency cost related to differences in time zones. This means the hours for direct interaction with the Pentagon diminish significantly for the San Diego site, and to a lesser degree with the Chicago, and Houston locations. Second, time spent travelling between the Pentagon and the Systems Commands location would be non-productive time. It could also result in inefficiencies because managers would be out of touch with those being managed. Therefore, locations closer to the Pentagon would be considered much more efficient. Third, spatial relationships between working components are vitally important to any organization. The Navy's Systems Commands are vertically linked within each command and horizontally linked across the commands. The current spatial arrangement is not as conducive to the kind of flexibility that would be required to maximize the efficiency of managing the Systems Commands.

CONCLUSION

The following conclusions can be drawn from the preceding cost analyses:

- The metropolitan cost comparisons illustrate that Washington, D.C. would be the most cost efficient metropolitan location for a consolidated Naval System's Commands facility.

- The Navy's costs associated with relocating to another site near the Pentagon may not differ dramatically from the potential costs of locating in the suburban Washington area. A suburban location would have lower land costs than a potential site near the Pentagon; however, it would also have greater costs related to community impacts, personnel changes, and transportation costs.

*****

Question. Is this study the same one referred to in your letter dated December 20, 1989 to Chairman Murtha?

Answer. Yes.

Question. I understand this study compared keeping commands in the Washington, DC, area where they are today versus moving them to another DC area location, to Baltimore, to Houston, to San Diego, or to Chicago. Is this accurate?

Answer. Yes.

Question. Why were these particular sites chosen for study?

Answer. These cities were chosen to best represent a cross section of geographic, economic, and infrastructure profiles of U.S. cities.

Question. Have there been any other Navy or OSD studies (other then the one described above) conducted on Navy command relocation alternatives since 1981? If so, list their titles and dates for the record and provide copies of them for the Subcommittee files.

Answer. Yes. A study of the State of Virginia was conducted in answer to the FY-90 Defense Authorization Act. A copy has been provided in answer to a previous question. In addition, the Department of Defense conducted a study on Base Realignments and Closures (Dec. 1988).

Question. Did the March 11, 1988 study include comparisons of the costs of: (1) Variable housing allowances; (2) "on the economy" housing costs; (3) pay grades/salaries for civilian employees; (4) medical costs for civilian and military employees (including dependents); (5) and construction and/or leasing costs between the alternative sites and keeping the commands located where they are?

Answer. The study included cost comparisons for pay grades/salaries for civilian employees and construction and/or leasing costs between alternative sites as well as not relocating. While "on the economy" housing cost comparisons were examined, the costs of variable housing allowances were not compared. Analysis of medical costs for civilian and military employees (including dependents) was not a part of the study.

Question. Explain briefly the key economic factors considered in studying the alternative sites in this March 11, 1989 report.

Answer. The key economic factors included in the study were the costs associated with separation, relocation, rehiring and the training of personnel, construction, land acquisition, infrastructure and transportation.

Question. What is the exact timetable for a final decision regarding the Navy's/GSA's solicitation to build or lease new office space for approximately 20,000 Navy employees in the National Capitol Area?

Answer. The solicitation for Offerers is now in phase two. Detailed proposals are due 18 June 1990, with the negotiations, economic analysis and evaluations, congressional briefings and reports expected to take another 10 months. This would place the estimated award date approximately April 1991.

Question. Is the Navy studying the feasibility of consolidating its regional data automation centers? If so, what is the status and purpose of this study?

Answer. Yes. The Navy and Marine Corps have proposed major consolidations of ADP operations and design centers in response to

OSD tasking pursuant to a Defense Management Review decision. On March 7, 1990 the Under Secretary of the Navy approved the consolidation plans for submission to OSD and directed additional studies to explore further consolidations. The purpose of these consolidations is to reduce costs.

[CLERK'S NOTE.—End of questions submitted by Mr. Livingston.]

A-12 (ATA) AIRCRAFT

Mr. YOUNG. Mr. Secretary, to what extent in this forum, I recognize that much of the information about the Advanced Tactical Aircraft cannot be discussed here, but to what extent are you able to say anything to us about the general health of the program, the status as of today, since the last time we met?

Secretary GARRETT. I think I can. We, of course, review that very carefully, Congressman, and the program remains on track.

We hope to have first flight some time in the ———. We are going back to review it again. ATA is another one of those programs that is currently under review at the direction of the Secretary of Defense. I will be going with Secretary Betti to review it once again.

But the reviews that I have had indicate to me that the program is well in hand. I think we are going to be flying this airplane relatively close to the originally scheduled time, and I think it is in relatively good shape.

We watch it very closely, obviously.

ADVANCED TACTICAL FIGHTER (ATF) PROGRAM

Mr. YOUNG. It is an exciting program, and I think we are all anxious to see it operational and have it available.

I think we can go into more detail on the Navy version of the ATF. I would like to discuss that openly here, ATF being basically an Air Force plane.

And the Navy's record of success with using Air Force planes isn't all that successful, and the Navy does much better when it builds its own airplanes.

But I assume you still plan to have a Navy version of the ATF; is that correct?

Secretary GARRETT. We are committed, Congressman. I have committed to the Secretary of Defense and Secretary of the Air Force to proceed with that program though DEM-VAL, and we have requested funding to do that.

We must ensure that any such aircraft is carrier suitable. I have explained to people inside the building that it is difficult to taken an aircraft that is not originally designed to be carrier suitable and make it such.

We think there will be a great deal of commonality between the two airplanes in terms of cost and avionics and engines; but with the air frame itself there are going to be differences. To be carrier suitable, there have to be different designs.

Mr. YOUNG. In your budget submission this year, are you satisfied that it provides enough funding to take care of your 1991 share of the DEM-VAL project?

Secretary GARRETT. Yes, sir.

Mr. YOUNG. Is the Air Force satisfied with that?

Secretary GARRETT. They have not expressed any dissatisfaction to me thus far, and I am sure if they had any, they would have.

Mr. YOUNG. Where does Navy ATF fall in your priorities?

Secretary GARRETT. It is relatively high. The primary program that we have on the Naval Aviation side is the ATA because of the air frames that it is replacing. We are going to be encountering difficulties in inventory in the mid to late 1990s in the first arena, so it is fairly high.

The NATF is scheduled to come later. We remain essentially on that schedule if, in fact, we get there.

Mr. YOUNG. You mentioned the commonality with the Air Force Version of ATF. Obviously for you to use it on a carrier you would have to have considerably different gear——

Secretary GARRETT. It is a formidable technical challenge that we will have.

Mr. YOUNG. Except for requirements for carrier landings, will be there be any other areas where commonality will not take place?

Secretary GARRETT. Not for the most part. The avionics, the engines, the Air Force requirements are somewhat different than ours in some of the performance parameters; but generally, the lack of commonality will come in the air frame itself.

Mr. YOUNG. So in the area of the avionics, for example, we should have commonality?

Secretary GARRETT. Large degree of commonality, yes, sir.

Mr. YOUNG. The Air Force recently announced a six month slip in the ATF-VAL phase. Does this bother you at all?

Secretary GARRETT. We are running behind them anyway, so that doesn't trouble me. We have some very basic issues that we have to resolve in the concept development and in the demonstration and validation phase, so that doesn't trouble me that much; no, sir.

SOLDIER-MARINE ENHANCEMENT PROGRAM

Mr. YOUNG. I want to change the subject to research and development and say to General Gray that in your statement, you indicate that the initiatives of research and development to improve the weapons and gear of American soldiers is a success.

General GRAY. Yes, sir.

Mr. YOUNG. How are you using the money—that is, what you are doing to assure that this is a success and what is it going to do for you?

General GRAY. Yes, sir. We have taken that funding and put it into two-and-a-half pages of projects, 15 or 16 projects, all relatively low-ticket items dollar-wise, and they have a great deal to do with improving the capability of the Americans to conduct a wide spectrum of special operations.

It involves personal equipment, specialized kinds of navigation equipment, certain kinds of protective equipment for extreme environments, we have to operate in the Arctic and in the mountains, I believe that you will be well satisfied with our answer.

I would like to give you that for the record.

[The information follows:]

Congress provided $11.678 million to the Marine Corps in FY 1990 for enhancement of the light infantryman's combat potential. The enhancement was to be attained through the development of more lethal infantry weapons and improved

"foot soldier" load bearing equipment, field gear, survivabilty items, communications equipment and navigation aids.

The Warfighting Center at Marine Corps Combat Development Command (MCCDC) prioritized the Soldier/Marine Enhancement Program item candidates. MCCDC is responsible for identifying Marine Corps warfighting requirements. Requirement teams personally interviewed combat Marines from operation "Just Cause" in the Panama Canal Zone to validate the infantryman's needs. The Marine Corps Research Development and Acquisition Command (MCRDAC) coordinated requirements with Army program managers, and reviewed pricing and contract execution. The following is a list of programs we plan to pursue:

Program Name/FY 1990 ($M):

1. Rifleman's Assault Weapon/$2.0.

Remarks: A Non Developmental Item (NDI) ordnance item launched from a rifle's muzzle that permits the individual rifleman to breach concrete walls and other urban targets from ranges out to 250 meters and from within protective enclosures.

2. Over Snow Mobility Suite/$3.0

Remarks: This program will operationally test a suite of state-of-the-art individual snow mobility items including skis, ski march boots, poles, bindings, assault snowshoes, and a family of equipment and casualty sleds. The intent of this progam is to replace the 1950's technology currently in service with lighter, better snow mobility equipment designed with performance, comfort, and indivdidual injury prevention in mind.

3. Extreme Cold Weather Shelter/$1.0.

Remarks: This program will operationally test an NDI four man, 15 pound tent designed to provide protective shelter in extreme cold weather conditions. This is both a load reduction effort and quality of life/war fighting enhancement initiative.

4. Combat Load Enhancement/$1.5.

Remarks: This program will survey the available state-of-the-art individual equipment used by the armies of the world with the intent of procuring the best of what is available for operational testing. Items included in this initiative include, but are not limited to, flashlights, individual rain protective gear, entrenching tools, lightweight stretchers, and individual shelters. Much of the equipment of this type that is currently in the active inventory is of World War II design. Lighter, more efficient equipment exists and would enhance the quality of life and combat effectiveness of our Marines.

5. Antipersonnel Obstacle Breaching System (APOBS)/$0.95.

Remarks: A man portable, fire and forget, mine and wire neutralization/clearing system that creates a continuous 45 meter long × .6 meter wide cleared foot path. Employed by two men in 30 seconds, the system provides the Marine with a 25 meter standoff from the mine field. This system will replace the bangalore torpedo which has been in service since WWII at a weight savings of 5:1. This $950 thousand will be added to the current Marine Corps funding of $1.5 million to accelerate the FSD portion of the program.

6. Reconnaissance Patrolling Insertion Extraction Equipment/$1.178.

Remarks: This initiative includes a number of associated items that support reconnaissance/raid operations. An example of the type equipment included in this initiative is the small unit water purification unit. That system allows a four man team to live off the land's available water using a one pound unit that provides 10,000 gallons of purified water between filter changes.

7. Special Operations Force Mountaineering Equipment (SOFME)/$0.2.

Remarks: This initiative will procure the necessary systems for an operational test of special climbing equipment. The SOFME provides a light weight system used for cliff assaults and urban scaling operations.

8. Personal Tracking System/$0.25.

Remarks: These funds will procure and operationally test an individual locator/tracking system that weighs ounces but will permit rescue teams to quickly locate individuals that get lost, separated, or captured during reconnaissance/raid operations.

9. Flame Retardant Assault Suit/$0.2; Hazardous Material Gas Mask/$0.15.

Remarks: These two initiatives go together. Together the system will provide an individual with the ability to survive in an airless, 2,000 degree fire environment for approxinately two minutes.

10. Load Bearing Equipment (Assault)/$0.2.

Remarks: Under this initiative, special load bearing equipment for assault-raid units will be procured and operationally tested. The equipment will be light weight, providing only for the portability of the war fighting necessities associated with raid operations.

11. Special Operations Improved Cryptographic System/$1.0
Remarks: These funds will provide for the operational test of a new, Non Developmental Item secure voice radio system that weights 1.5 pounds and is 3.6 × 5.5 × 2.1 inches in size.
12. Small Unit Navigation System/$0.05
Remarks: Two state-of-the-art systems from two manufacturers will be operationally tested under this initiative. These systems weigh less than five pounds, are 6.5 × 7 × 2 inches in size, and can provide a unit with its position anywhere in the world with an accuracy of plus or minus 25 meters.

Mr. YOUNG. Are you satisfied with the budget allocation?

General GRAY. With respect to improvement of individual Marines and soldiers, yes, sir.

Mr. YOUNG. You don't think there will be additional funds required?

General GRAY. I am always grateful when additional funds come around; and, we have a long track record of spending it wisely.

I would like to hold what we have in the 1991 budget request.

Mr. YOUNG. You won't ask for more if you can hold what you have?

General GRAY. That is correct.

Mr. YOUNG. I think it is going to be a holding action all year long.

General GRAY. I would say that that idea has been a good one. I know that my colleagues in the Army have benefited from that recommendation as well. Most of them have been in difficult type projects.

NAVY ACQUISITION MANAGEMENT

Mr. YOUNG. The Navy has established a new Assistant Secretary of Research, Development and Acquisition in the Pentagon, Mr. Secretary, and you have substantially reorganized your acquisition mangement structure at lower levels. Tell us something about that.

Secretary GARRETT. Well, sir, as you know, the Secretary of Defense ordered a Defense Management Review. It has been accepted by the President. We participated fully and completely in that process.

In the process during the time that I was the Under Secretary, we were criticized by some for not complying completely with the Packard Commission recommendations and some aspects of Goldwater-Nichols.

I took the opportunity to ensure in the process that we would rise above criticism by placing all acquisition under the Assistant Secretary for Research, Development and Acquisition, a permanent position.

As to the lower level, it is not that much of a change from what we had. Heretofore, we have had six program executive officers who have been essentially our systems commanders, for example, Naval Sea Systems Command, Naval Air Systems Command.

Mr. YOUNG. Are they uniformed personnel?

Secretary GARRETT. Yes, sir.

What we have done is to break out seven program executive officers that will be exised out and will be given small staffs, from ten to 16 people. They will exercise authority over a number of programs.

What we have done is taken 78 programs of varying sizes, somewhere there are a number of sub-programs that will also come

under the aegis of main programs, and assign program executive officers and direct reporting managers. They will all report directly to the RD&A Assistant Secretary, who will report directly to me and the Under Secretary for Defense Acquisition.

There are number of other programs that we call mature programs, like the aircraft carrier program. It is a large program but we are working from a 1960s design that is still in production. Many of our shipbuilding programs fall into that category. They will remain under the Sea Systems Commander because not only do you provide support in the initial phases of the programs, but you provide life-cycle support as well and some programs run for 30 or 40 years.

The program executive officers who report to the Assistant Secretary are really managing high-risk programs in the early stages of those programs so you have a direct line of communication from the program manager, program executive officer, Assistant Secretary, Secretary.

We will also be driving down the authority and the resources to the program manager and the program executive officer so they are going to be completely autonomous. We have tried to streamline the process so that they can manage their programs and do it efficiently and effectively.

Mr. YOUNG. Will these program executive officers stay with the program for a longer period of time?

Secretary GARRETT. We will attempt to keep them there a minimum of four years, which is what is required. I can't guarantee that in every case because of intervening events, but we will endeavor to do that.

As I look over the universe of program managers within the Navy today, we have been doing very well. I think we have had five exceptions to that policy in the last three years.

Mr. YOUNG. I have some additional questions on that subject which I would like to submit for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Young and the answers thereto follow:]

Question. Mr. Secretary, please explain your acquisition reorganization proposals.

Answer. Our acquisition proposals were developed by a Department of the Navy Management Review Task Force (NMRTF) reporting directly to me, so that I could direct, oversee, and coordinate Secretary Cheney's Defense Management Review (DMR) implementation efforts. This Task Force was comprised of over 120 functional, technical and policy experts engaged virtually fully time over several months in DMR implementation planning. Our objectives were to fully implement both the intent and specific directions of the DMR in a manner which enhances our ability to meet the warfighting needs of the CINCS; ensure compliance with all provisions of the Goldwater-Nichols Reorganization Act and other statutory requirements; and resolve other major organizational/management issues during the implementation process, such as International Programs, ASW and ADP.

The key elements of our proposals were to streamline the acquisition secretariat; clarify the acquisition structure; and to strength-

en the acquisition workforce. Toward this end, I will list below some of the major changes planned:

The Assistant Secretary of the Navy for Research, Development and Acquisition (RD&A) will serve as the Navy's full-time Acquisition Executive. He will also serve as the focal point for all international programs, ASW technology and development, and information resources management.

The Assistant Secretary for Installations and Environment (I&E) will provide full-time focus on our shore establishment and environmental concerns.

Seven new Program Executive Officers (PEOs) and three Direct Reporting Program Managers (PMs) will be devoted full-time to managing major acquisition and related programs.

The Systems Commands (SYSCOMS) missions will be refocused to manage acquisition programs not assigned to PEOs; provide matrix support to the PEOs; and to provide logistics support.

Our Material Professional (MP) Program will now provide for earlier designation and intensive education and training, in order to develop highly qualified officers for selection as Major Program Managers, Program Executive Officers, Systems Commanders, and other key acquisition positions at the Captain (O-6) level and beyond.

The general intent of my acquisition reorganization proposals is to refocus authority and accountability in line managers, and push management decisions, currently reviewed and cleared by Secretariat Staff, down to PEOs, Program Managers and their direct supervisors.

Question. Explain the roles of your newly established PEOs.

Why did it take the Navy so long to move this structure, which the Army has had for 2 years?

What functions will still be performed outside the PEO structure?

For the record, compare the Navy's PEO management structure to those of other Services.

Answer. Our former structure also provided for PEOs, but they were dual hatted as SYSCOM Commanders. We believe this structure was consistent with the recommendations of the Packard Commission, in light of the abolition of the Naval Material Command in 1985. However, we will now establish the PEOs and Direct Reporting PMs separately from the SYSCOMs (and the Marine Corps Research, Development and Acquisition Command), as required by the Defense Management Report. We believe this new structure will provide a great benefit by providing full-time management attention on critical development phases of high dollar programs. Also, we believe that program stability can be further enhanced by increasing the visibility of major program funding and isolating funding control under the new structure.

Our major SYSCOMs will still perform functions outside the PEO structure to support the acquisition process. However, these functions will be limited to three primary areas: managing acquisition programs not administered by the PEO struture; providing support services to the PEOs/PMs without duplicating any of their management functions; and providing necessary logistical support. The SYSCOMs will no longer exercise program direction

authority or control the funding or personnel authorizations for programs assigned to PEOs and Direct Reporting PMs. Further, the SYSCOM Commander will no longer approve required acquisition documentation, program certifications or resource adjustments for programs managed by the PEOs and Direct Reporting PMs.

The Navy's PEO management structure is similar now in principle to those of other Services, with regard to meeting the requirements of the Defense Management Review (DMR), the Packard Commission and other statutory requirements. While the numbers of PEOs and PMs will naturally vary across the Services, the SAE/PEO/PM reporting chain across all services will provide for substantial streamlining of the acquisition process. Similar to the Navy, the other Services will continue to manage other acquisition programs and provide a variety of support services to the newly structured PEO/PM organizations through separate product line commands, without duplicating any of the PEOs' or PMs management functions. However, unlike the Army and Air Force, the Navy and Marine Corps will not maintain a four-star command to perform policy, support and logistics functions. Finally, all of the services will be vesting their PEOs with substantial decision making authority and control over funding and manpower resources, while reducing the reviewing and reporting burdens on the PMs.

Question. Discuss the potential manpower savings from these actions and how you will ensure they are achieved.

Answer. As a result of these other actions, we will reduce the Department of the Navy secretariat acquisition staff by more than 20 percent. As we implement the new organizations, which will be drawn from existing personnel authorizations, we will also work hard to streamline internal management processes within the SYSCOMs and attain manpower savings resulting from such reforms.

Question. The Congress has been dissatisfied with Navy's ADP management for over 10 years. Explain how moving Navy ADP to this new Assistant Secretary will improve the situation.

How much time will an Assistant Secretary responsible for all Navy R&D and all Navy acquisition be able to devote to ADP?

Answer. As part of the principal findings and recommendations of the Navy Management Review Task Force (NMRTF) that I established to conduct DMR implementation planning within the Department of the Navy, it was concluded that consolidation of responsibility for ADP acquisition must be placed under the ASN (RD&A). This is necessary in order to comply with 10 U.S.C. Section 5014, which requires that a single office conduct the acquisition functions with respect to all goods and services within the headquarters elements of the Department of the Navy. I believe that this change will not only improve our management of ADP acquisition, by increasing its level of management visibility within the Department, but will also help us in our continuing efforts to streamline our acquisition management process. In consideration of the many responsibilites of the new ASN (RD&A), I have established a Deputy Assistant Secretary of the Navy/Deputy position to handle all Information Resources Management (IRM)—DASN/Director, Information Resources Management. This official will assist the ASN (RD&A) execute his duties in this area, including the establishment

of integrated policies and programs to help commanders meet information requirements though cost-effective IRM.

[CLERK'S NOTE.—End of questions submitted by Mr. Young.]

TECHNOLOGY AND INDUSTRIAL BASE

Mr. YOUNG. I want to finish with a question that I have asked every Secretary having to do with a very serious concern that I have about our future ability to maintain technology edge.

In my own experiences, I have found major companies who are selling off their defense activities. Others that are being taken over in forced take-overs, so that the defense activities are becoming a pawn in the manipulation of Wall Street to make quick profits. Also, because of the developments in Europe, I am learning from the investment community that a lot of capital investment that has been going into defense interests now is looking for another home, looking for somewhere else to go because they think there is a better future. I am concerned about what happens when the companies don't have the investment capital or where they no longer have interest in the defense activities or the defense part of their operations. What happens to our research and development?

Admittedly, the R&D doesn't bring in the fast money. Are we going to lose out on some of this research and development that companies are doing now because they believe they will lead to something in the future? Is there a threat there or am I having a nightmare that is only mine and doesn't apply to anyone else?

Secretary GARRETT. No, sir, we share your concern. Certainly I think there has been a movement in that area.

Some of the corporations that have heretofore participated in defense businesses are, in fact, getting out. As the budgets come down, this gets back to the question that Congressman Miller asked relative to the industrial base. I think you are going to see more of that.

We in the Navy are attempting to shift emphasis to more basic research and we will certainly, I think, fund the R&D accounts in a robust way given where we are.

But I share your concern. I think it is more than a possibility; it is more a probability.

Mr. YOUNG. Mr. Secretary and Admiral, General, thank you very much. It is always nice to have you with us.

Thank you, Mr. Chairman.

NAVAL PRESENCE IN WASHINGTON

Mr. MURTHA. One of the major concerns, Mr. Secretary, that I have brought up over and over again is the number of junior personnel we have at Crystal City. I know you run into the problem with Senator Warner wanting those folks to be in Virignia, but I would hope that you would look at, as we are winding down and we are reducing the strengths, the possibility of eliminating some of these people in Crystal City.

First of all, the rent is much higher, but more important is the fact that they have to travel so far in order to get to work. It would seem that we could decentralize our effort out there and move

them someplace else. We have closed all these bases, yet we still have probably as many people in Washington as we had last year.

Secretary Atwood keeps telling me they are moving on the problem; they are going to reduce the number of people in the Pentagon.

I remember a year and a half ago, Jack Marsh had two hats, Secretary of the Army and Assistant Secretary for Operations. He couldn't even find an office in the Pentagon. That is almost impossible to believe with all that space over there, but I would urge you to look at that carefully because of the impact it has on the junior enlisted and I guess even the senior enlisted because of the fact they have to live so far away and have to spend so much time traveling.

We are going to look at it and hopefully working together we will be able to solve that problem as we have the medical services problem.

Secretary GARRETT. We are looking at it carefully. Preliminary studies done to date indicate that moving out of the Washington area would be a very costly move for us, and I have to tell you when you go up to almost any Naval base, whether it be in New London, Connecticut or San Diego, we have the same problem for all of our young people. They have to live great lengths from the base. We have people that are stationed in New London that live in Rhode Island near Providence and travel for an hour and a half simply because they can't afford to live close to the base.

Mr. MURTHA. They claim that if you moved it 15 miles, say, away from Crystal City, you would save a substantial amount of money. I realize there are moving costs, et cetera, but I hope you will look at that possibility also.

Secretary GARRETT. We went out with an RFP in October to relocate and have received proposals back. We are looking at these proposals and should have an answer somewhere in the late spring, early summer time frame as to what looks best.

Mr. MURTHA. Mr. McDade.

ACQUISITION MANAGEMENT

Mr. MCDADE. Thank you, Mr. Chairman.

I want to follow up on the questioning that Mr. Young initiated about your organization over in the department and setting up an individual in charge of acquisition, et cetera, and recruiting your individuals who are already there to do the programming.

My question really is, I have seen a lot of boxes moved around and so have you in your time. It doesn't work too well in our experience so far. Let's hope that this is a better effort.

That prompts my question about whether or not there is going to be along with that some effort in the Navy on the personnel side to change the profile of a successful Naval officer to accommodate the people who might devote their years to these program offices. A lot of people that I have talked to say we appropriate the money so you fellows can fight the war, and the average fellow coming along in the service who wants to be successful wants to do that and not push a desk. Those running the programs have to do that, and I

think a lot of them may take a hit on their career because of a personnel policy that might not follow a directional policy.

Secretary GARRETT. I spent 20 years in uniform so I understand the problem. In the Navy-Marine Corps, our people come in and they aspire to command. I think that is the way it has been for 200 years and it has worked well.

What we have done with regard to that is we have created the material professional program and the material professional designator. Some of the recommendations that were made were to identify these people earlier in their careers. We have, I think, balanced the need for what I call operators and what the General and the Admiral would certainly acknowledge are operators in both the Marine Corps and the Navy.

We have provided a system where somewhere between the fourth and the 12th year officers would be identified as having an interest in this as a subspecialty, if you will. Once that is done, after they go to sea or to the field, they would be assigned in their normal shore tour to an acquisition-related billet. On the Navy side, it may be that the person would be assigned to a new construction ship in Pascagoula or in Bath, so that he is operating in that environment. After moving from his shore tour he would go back to sea and he could still aspire to command.

Around the 20-year period after he has had command, he could make the choices whether or not he wants to become a program manager and we would have to send him to schools and what we would hope to get are young officers in the grades of commander, lieutenant colonel or captain and colonel who are really multifaceted. They can operate in the field or at NAVSEA.

Mr. MCDADE. Will you take a check between the fourth and 12 years——

Secretary GARRETT. When they would identify their interest. They would continue in their chosen profession, which is either Naval officer or Marine Corps field officer.

Mr. MCDADE. I am trying to make sure that the person's selection doesn't decrement his career objective.

Secretary GARRETT. It would not impact negatively on their career. For example, Congressman, as a result of the last flag officer selection board that we had in the Navy, five of our 30 officers selected were material professionals. Also, in our program they can go all the way to four-star admiral.

Mr. MCDADE. It sounds like you have your arms around the problem and a good mix.

General GRAY. One of the nine major generals was picked because of his acquisition experience.

Mr. MCDADE. I wanted to get into it with you because I don't think moving the boxes will solve the problem.

Secretary GARRETT. I agree.

Mr. MCDADE. I am glad to hear you are doing that.

Secretary GARRETT. We are paying close attention to that.

ASW OPERATIONS CENTER—BERMUDA

Mr. McDADE. You mentioned in response to a question on ASW that if you close the base in Bermuda, you could have patrol planes up and running in a couple of weeks.

Secretary GARRETT. We are not closing the base; we are standing down the operations. We would still maintain the base. We have a treaty arrangement with the British to operate the base.

Mr. McDADE. So you will be in a position where the infrastructure can be maintained——

Secretary GARRETT. We can put the troops back in 24 hours and stand the intermediate maintenance facility back up.

AIRBORNE SELF-PROTECTION JAMMER

Mr. McDADE. Let's talk about the airborne self-protection jammer program which began in 1976 as a common Air Force and Navy solution to an emerging problem.

Recently the program has been plagued by poor test results and delays which resulted in the fiscal year 1990 Department of Defense Appropriations bill removing all money for production while retaining funds necessary to provision F-16, F-14, F/A-18 and AV-8B aircraft to accept the system. The fiscal year 1991 budget request includes funding the Navy effort but there is no Air Force program.

What the committee is trying to determine is, first of all, the current status of testing on the development and production verification models.

What is the current status?

Secretary GARRETT. We have had them on bench tests thus far. We have the first two units, systems 1 and 2, delivered and the bench test results at this time have been excellent.

I met with the program manager two weeks ago. I follow this very closely. It was my decision to continue. I feel strongly about it because of the capability that we believe this system will have and the protection that it will give not only to the airframe but the young aviator in the cockpit.

Mr. McDADE. That being the case, why do you think the Air Force is not in the program anymore?

Secretary GARRETT. I can't speak for the Air Force. I wish I could. Their position as related to me was one of affordability.

Mr. McDADE. But you are talking about a system that can save the pilot's life. There is a lot of question about what you put in and what you put out. This seems very basic in terms of a fellow's ability to operate in an effective way and complete his mission.

Secretary GARRETT. My own view is that we are going to be successful and that once we are successful, the Air Force will re-evaluate their position.

Mr. McDADE. Is there a follow-on development that you are aware of?

Secretary GARRETT. Not at this point. I hoped, of course, that we would have the system fielded and in the aircraft that are sitting there waiting for them to be delivered.

I have taken the position that we will go through demonstration validation. I want to be assured that the system works. Once they assure me of that, we will proceed ahead.

Mr. McDADE. When will you complete the DEM-VAL phase?

Secretary GARRETT. Probably not until 1993.

Mr. McDADE. In January this year the IG wrote to you, Mr. Secretary recommending that a partial stop-work order be issued to allow time to assess the effects of the Air Force withdrawal from the program.

What action did the Navy take in response to the letters?

Secretary GARRETT. I indicated I was continuing on.

Mr. McDADE. What will be the cost of the program to go; do you have any idea?

Secretary GARRETT. I will provide that for the record.

[The information follows:]

R&D—$5.1 million in FY 1991.

Procurement—$1,363 million for 722 systems (in addition to 50 units in Lot 1) to meet 772 unit requirements.

Operations and Support—$1,700 million over 20 year life of the system.

Costs are being reviewed due to USAF withdrawal from the program, but initial estimates are less than ten percent cost growth.

Secretary GARRETT. It is not going to be an easy program to maintain. There was an issue about the 50 units that were to go to the Air Force.

I don't think that those units would be wasted at all. Again, I believe—maybe it is a matter of philosophy, but I believe that we have invested sufficiently in this and we are sufficiently close.

Mr. McDADE. What are the sunk costs?

Secretary GARRETT. I don't know. They are not insignificant.

Mr. McDADE. Put the sunk costs into the record.

[The information follows:]

[In millions of dollars]

	USN/USAF	Navy
R&D	501.1	253.5
Production verification	316.8	157.2
Lot 1	428.9	194.2
Total	1246.8	605.0

Secretary GARRETT. We would complete the testing in 1992.

Mr. McDADE. It was originally planned to have dual sourcing.

Secretary GARRETT. Yes, sir. That is an issue that I have to struggle with in the very near term as to whether or not we continue that.

Mr. McDADE. What is that going to do to costs and affordability and the rest? Do you think you can continue to afford it if you are forced to have no competition, one source, et cetera?

Secretary GARRETT. I would like to reserve that decision, but it is one that I have to make clearly, as to whether we continue dual source or single up.

Mr. McDADE. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Dicks.

P–7 ASW AIRCRAFT

Mr. DICKS. A recent press article quotes the Navy program manager of the P–7 long-range ASW as saying the airplane is over weight and that the program is two years behind schedule with delays likely to lead to cost increases yet to be determined.

What is wrong with the P–7 program?

Secretary GARRETT. What happened was the contract——

Mr. DICKS. They bid low, didn't they?

Secretary GARRETT. They didn't buy in, in my opinion, but they did bid low. That is based on our own analysis. There were some design problems primarily based on anticipated commonality between the P–3 and the P–7. I believe they were always optimistic on the design side and they recognized that.

They have come in and talked to me and to the P–7 program people. We are working on the issues. There is a Lockheed team and a Navy team working, as we speak, to define the problem.

Mr. DICKS. Is it true that the contractor ceased work on the main design effort last November?

Secretary GARRETT. I don't think it is true that he ceased. We shifted gears and relooked at the original design, and they concluded that they were overly optimistic in their design and changes had to be made.

There was a change in the weight from a 76,000-pound airplane to an 80,000-pound airplane, but we are satisfied that the design will meet the requirements that we have set forth.

There is, however, an anticipated delay in the program. I am getting ready to have a program review on the P–7 next month, after the Lockheed and Navy teams have run these problems to ground, to get a complete brief on where we are and where we should go with that program.

Mr. DICKS. Is this a firm-fixed price contract?

Secretary GARRETT. Yes, sir, firm-fixed price incentive, I understand.

Mr. DICKS. Has Lockheed taken a writedown?

Secretary GARRETT. They took a $300 million write-off, yes, sir.

Mr. DICKS. So they made a little mistake on this one, right?

Secretary GARRETT. They made some design errors, yes, sir.

E–6A TACAMO TAIL BREAKS

Mr. DICKS. I hear that they think they have the fix on the E–6A TACAMO, the tail problem?

Admiral TROST. Yes. We have flown the first tactical missions with the early delivery E–6A. They do operate under operational constraints mach number and angle of bank and they can operate within those limits and carry out the mission.

A–12 (ATA) PROGRAM

Mr. DICKS. So we are in a little better shape there.

Tell me about the status of the Advanced Tactical Aircraft, the ATA program.

Secretary GARRETT. As I discussed with Congressman Young, the program remains in relatively good shape compared to a lot of programs. We had originally scheduled to fly earlier, but I believe we will fly before ———.

Mr. DICKS. ———.

Secretary GARRETT. Yes sir ———.

Mr. DICKS. What is the IOC?

Secretary GARRETT. ——— we will remain on schedule.

Mr. DICKS. This is part of the big 4 review. Do you see any problems in this big 4 aircraft review?

Secretary GARRETT. I have learned that anytime there is a review, there is usually a problem. I have taken the position that all of these programs should stand or fall on their own merits, and I think that the ATA program, as we have worked it now for two year, is in very good shape and can stand on its merits notwithstanding the fact that there are those——

Mr. DICKS. What will it replace?

Secretary GARRETT. The A–6 medium attack, all-weather attack aircraft. We have been flying the A–6 since 1958.

Mr. DICKS. Describe, if you can at this level, what new capabilities do we get here?

Secretary GARRETT. That is beyond this level.

Mr. DICKS. We will have another hearing on this. If ATA were canceled in the big 4 review and I am not suggesting—or advocating that, I think the program is essential, what would you do?

Secretary GARRETT. I would first go to general quarters and reclama. There is not very much we can do at this juncture other than start over.

Mr. DICKS. The A–6's are pretty old?

Secretary GARRETT. It is a work horse of the fleet. We are flying it today and we will be flying it until the year ——— if the ATA stays on track.

We would have to start over because we could not meet the potential threat in the out-years.

Mr. DICKS. Can the F/A–18 handle any part of the mission?

Secretary GARRETT. Yes, but not with an acceptable attrition rate.

DDG–51 DESTROYER PROGRAM

Mr. DICKS. There has been some criticism in the press on the DDG–51. What is the status of that?

Secretary GARRETT. I think that program is also in good shape. We testified, as you know, before the Seapower Subcommittee on 24 January. There is a lot of criticism. There was an engineering change proposal that the Navy negotiated with Bath Iron Works over a period of nine months to accommodate an increased scope in the work that we were doing topside on the ship. We have worked our way through those design problems.

The DDG–51 lead ship was launched in September and we will take acceptance or delivery of that ship in February, 1991. We will be through our DT–5 and OT–3 testing at that point in time and we will still deliver that ship under the amount which we budgeted in 1983.

Mr. DICKS. Some have characterized this as a bailout.

Secretary GARRETT. Yes, sir.

Mr. DICKS. How would you answer that?

Secretary GARRETT. I don't believe it was a bailout. We increased the scope of the work and we negotiated with the builder to compensate him fairly for the increased scope of the work.

Mr. MURTHA. Let me ask about the DDG–51. Go into a little more detail about the DDG–51 because there is all kinds of bad publicity about it. We get so much criticism, but of course this criticism reflects directly not only on the Navy but on the Congress who has oversight of these program.

I remember talking to the officials up at the shipyard and also to the Navy, and you could explain everything, but how is it that these kinds of news reports get such big play and then it turns out there was nothing to it?

Secretary GARRETT. I think it is a strange phenomenon of our society, with all due respect. We don't react much to good news.

Admiral TROST. I was present at the launching of the ship at which three Members of Congress spoke out in favor of the ship and refuted all criticisms to date and no news media picked it up.

Mr. DICKS. Has this been singled out for criticism because of concurrency?

Secretary GARRETT. That was one of the concerns. In the shipbuilding arena, you get into the issue of how long it takes you to build a ship from the day you go on contract, before you start cutting metal; it usually takes two years.

If you were going to maintain any kind of industrial base, any kind of skill base work force, I think there is going to be a certain amount of concurrency.

With the DDG–51, you have to appreciate the fact that there is not a great deal of technical risk in building that hull, to welding the metal. There is a lot of new design of the superstructure to reduce the radar cross section. That was the scope of the work that was increased as we were working through the design, but the basic components that go inside that ship have been tested and there is very little risk.

The engines are essentially a non-development item.

Mr. DICKS. Integration has been the problem before——

Secretary GARRETT. You have the entire Aegis cruiser class before you from which you can use the weapon system that has been tested over a period of over 12 years.

Admiral TROST. One of our practices, the only thing that doesn't get tested—that isn't already at sea in its existing configuration is the combat system, but it is at sea as an Aegis system. This is a variation of that system. Every Aegis system, before it is ever delivered to the shipbuilder, sits in the manufacturer's plants wired up with the same cables that are going to be used on the ship and it is tested out as a complete integrated system, so that risk is very low.

Secretary GARRETT. The Aegis Combat System that is going into the DDG–51 is the very system that has been installed in our newest AEGIS cruiser—CG–65, which is nearly a year further along than the DDG–51 and is subject to the same kind of testing.

So we are very confident that there is very little risk in this program. It is a requirement because as we take our force structure down and as we look into the out-years and take out the older platforms, the DDG–2s and others, then this dovetails right into the modernization of our surface fleet.

Mr. DICKS. With some of the difficulties you had in redesign, should there be five ships in this budget?

Secretary GARRETT. Yes, sir. Because of the long lead and maintaining mobilization base. It is indicated that the minimum is four and that is just to keep shipbuilders alive.

STRATEGIC MISSILE AND PLATFORMS

Mr. DICKS. I understand the Chairman got into the question of the ballistic missile split, under START agreement ceiling of 4,900 weapons. There will be a split between the Navy and the Air Force, and I understand the administration hasn't decided on this yet. We have 17 Tridents——

Admiral TROST. Seventeen authorized, the 18th in this budget.

Mr. DICKS. I have been told that each side is not going to count two or three of these submarines and therefore we can get a few extras.

When you add up the number of warheads getting to the high 3000 range, Congress is going to want to know how many we are actually going to buy. We have a lot of other priorities that are going unfunded as I pointed out.

Where are we in the program? How many of these can we actually deploy?

Admiral TROST. Our goal, which takes into account the limits which we would agree to under START, is to have an operational fleet of 21 Trident submarines, and, with those three free ones you refer to, 24 total hulls. That is based on the premise which we believe the Soviets are agreeable to, that ships in overhaul do not count, since they are not deployed or deployable.

That is a goal which was consciously decided upon as a level of reentry vehicles at sea, which ae the most survivable ballistic systems. This would not jeopardize the Air Force programs, like Minuteman II which have a finite end life in sight for all currently deployed systems with the exception of Peacekeeper.

The issue of mobile ICBMs is a decision before Congress which includes whether Midgetman will ever be built. Given those uncertainties, we are not in danger of jeopardizing our capability.

Mr. DICKS. That is over 4,000 warheads?

Admiral TROST. If you add up 21 submarines that is ——— without exercising any download option, or variation of numbers of tubes.

Mr. DICKS. Is that seriously considered now?

Admiral TROST. That is a long term option. None of those things are seriously considered absent a START agreement because we don't want to jeopardize our negotiating position.

Mr. DICKS. At some point you are all going into the tank over there. When are you going to start this?

Admiral TROST. We may have a START agreement this year. I certainly hope that is true.

Mr. DICKS. You don't think the decision should be made about the split before the START agreement?

Admiral TROST. No, I do not. If it were, I have never heard even the opponents of Trident speak of force levels lower than 18 submarines.

Mr. DICKS. I agree with that. No one is suggesting less than 18. For some of us up here, looking at the whole modernization question, it would be nice to know at some point where we are going.

Admiral TROST. We agree. We consciously made the decision in the JCS and recommended to the Secretary of Defense that we not at this time put out a finite plan, because there were too many uncertainties in that plan.

Mr. DICKS. What about a START II agreement? Has that been discussed?

Admiral TROST. That has been discussed but it is a nebulous discussion. Absent START I getting nailed down, I don't know whether people would propose putting in START II.

Mr. DICKS. Thank you. I will have other questions for the record.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

SEA LANCE

Question. Secretary Cheney testified before us earlier this month that ASW remains the number one priority of the Navy, and this is reflected in your written statements as well. Yet the Washington Post recently ran an article questioning this commitment given a number of proposals in the budget. Certainly cancellation of Sea Lance is exhibit number one in this questioning of your commitment. Is ASW in fact your number one priority and if so why did you propose cancellation of the only long range ASW weapon available to the submarine force, and the only fast reaction long range weapon for surface ships?

What limits does VLA have as a poor substitute for Sea Lance?

Answer. ASW remains the number one priority of the Navy.

The cancellation of the Sea Lance program was a result of affordability. As a result of a recent program review, it was determined that additional surface ship integration, increased cost based on actual hardware builds, and stretchout of the schedule to allow more orderly testing were required. As a result of the developmental, testing, and programmatic issues, Sea Lance initial operational capability would have been delayed two years with an increase in life cycle cost estimated at $935 million. In view of the program delays and cost growth, Sea Lance is not of sufficient priority as an ASW upgrade to compete successfully for resources in the current fiscal climate.

Since Sea Lance is simply a torpedo delivery system, there are several existing alternatives to deliver ASW ordnance on target including the Vertical Launch ASROC. The limitations of VLA against Sea Lance are limited essentially to range capabilities. VLA range is ——— whereas, Sea Lance is ———. However, torpedo delivery systems such as naval aircraft can deliver ASW ordance well beyond the Sea Lance range of engagement.

Question. What advantages would the quick reaction time of Sea Lance provide over other ASW weapons?

Answer. The quick reaction time of Sea Lance provides an allowance for some targeting inaccuracies. The target area of uncertainty grows as a result of target motion during weapon transit time. Reduction of the time of ordnance on target, therefore, reduces the

area of uncertainty. Additionally, on an offensive strike with Sea Lance, the difference between time of launch detection by the target to ordnance on target can be short enough to preclude target counterattack.

Question. What changes in operations will result in the absence of a weapon with the range of Sea Lance?

Answer. Since a long range conventional ASW standoff weapon capability is not present in the fleet, no changes in operations are required. A critical need does exist for a standoff ASW weapon capability for surface ships. This need will be filled by the Vertical Launch ASROC program which is entering operational testing. Submarines will be required to maintain their tactical edge through sound silencing programs to provide adequate advantage to conduct torpedo attacks.

Question. There has been some concern expressed over the cost growth and schedule slippage in the program. What factors were involved in this, and in particular what impact did the decision to go from a nuclear payload to the MK-50 torpedo have on the program? What impact did the decision to go to a common submarine and surface ship capability have on the program? While total program costs have increased, have there been increases in unit cost based on the larger buy for a common weapon?

Answer. The near-term factors which contributed to the cost growth and schedule slippage were as follows:

(a) Increased definition of the work needed to assemble and checkout Sea Lance missiles indicated that more time and funding were required than had been estimated.

(b) Increased definition of the work and testing needed to integrate Sea Lance into surface combatants indicated that more time and funding were required than had been estimated.

(c) The detailed combined program cost estimates by the prime contractor, which for the first time were based on actual hardware and construction costs, were higher than the mid-1988 projections.

(d) The schedule contained a highly success-oriented testing schedule.

(e) The schedule contained a provision that assumed procurement of long lead production material would be authorized without conducting any independent operational testing.

(f) The combination of the above factors with the constraint that FY-90 funding could not increase over the President's Budget request resulted in a 15 month delay in schedule and an additional 9 months as a result of the long lead material issue. A price increase of $206 million was required to complete development.

The impact of the change in primary payload in 1986 had little impact on the above cost growth and schedule slippage. However, the decision to develop a common surface ship and submarine weapon was a long-term factor. When the present program foundation was developed, the plan was directed to provide the earliest possible operational date for surface ship capability. This resulted in the success-oriented schedule mentioned above and some rough order-of-magnitude estimates for the cost and schedule to conduct surface ship integration. It was not until the middle of 1989 that these estimates were refined based on detailed engineering review.

This then resulted in the Navy's request to change the baseline program.

The unit cost has increased in the early years of the projected procurement due to the larger first unit costs, based on the actual construction costs of the full scale development missiles. The larger buy as a result of the inclusion of surface ship requirements has lowered the average unit cost for a given initial theoretical unit cost.

Question. I am advised that the Navy's award fee evaluations of the Sea Lance program have judged it overall an excellent program the last three years, and excellent to outstanding from a technical standpoint. Is this correct? How would you assess the ability of the program to complete development on the current price and schedule?

Answer. The award fee evaluations in the last three years have judged Boeing to be overall excellent or good (nearly excellent) with one outstanding; the good evaluations were for the periods ending September 1987, May 1989, and January 1990, the outstanding was for the period ending May 1987. The evaluations for technical performance have been excellent or outstanding.

The current price and schedule is reflected in the approved baseline program which was determined by Navy to not be executable. As a result, Navy submitted a baseline change request to delay the initial operational capability date by two years and increase the overall RDT&E,N funding by $206 million. This change request precipitated the eventual termination of the program because of overall program cost increases of $935 million.

The program reflected in the baseline change request would have resulted in the ability to complete development. However, the contractors commenced termination efforts on January 3, 1990. As a result of these efforts, the proposed baseline change request program is no longer executable.

Question. What were the results of the initial flight test of Sea Lance conducted on February 17? What is the schedule for the rest of fiscal year 1990 for this program? If the Congress decided to continue funding of the program what disruption would this plan create for the program and what costs would be added as a result?

Answer. During the initial Sea Lance flight test the missile flew along the predicted long range trajectory. The missile met all performance requirements, successfully demonstrating flight time, accuracy and range capabilities, in addition to providing in-flight missile environmental data for the MK-50 torpedo payload.

The following actions remain in the FY 1990 schedule:

(a) Second flight test, scheduled for February 23, 1990. This flight will test the missile in the more stressful mid-range trajectory.

(b) Pyrotechnic shock test of MK-50 torpedo in the Sea Lance protective shell, three tests in April and May, with data reduction and report completed by mid-September.

(c) Panel separation sled tests of the protective shell, two tests in April and May, with data reduction and report completed by the end of July.

(d) Missile separation air drop test, three tests in June, July, and August, with data reduction and report completed by mid-September.

(e) Air stabilizer qualification, five tests in April and May, with data reduction and report completed by the end of June.

(f) Test payload design completion, final drawing release in May.

(g) Software documentation complete by the end of June.

(h) Termination activities, all contractor personnel charged to Sea Lance finished work and released by late September.

A Congressionally mandated program would result in about a two year delay in initial operational capability (IOC) over the extended IOC requested by Navy last December. This is a result of the fact that termination has already commenced by the subcontractors who were building hardware for the test program and the assumption that the program would not be mandated before the beginning of FY 1991. The resultant increase in RDT&E,N funding due to the restart and inflation factors of the extended program is estimated to cost $986.2 million to complete development over a seven year period. This is $297.9 million increase in RDT&E,N over the rebaselined request of last December and $504.0 million over the currently approved baseline program.

Question. Is the current program structure consistent with the ability to cost effectively continue contractor effort should the Congress disagree with the proposed cancellation? What could be accomplished if the funds proposed as a reprogramming source were applied to the program?

Answer. Since the development contract with Boeing is only partially terminated, because of continuing testing and archiving of documentation, a contract modification could restart work. A proposed contract modification would be issued by the government, and Boeing would respond with a proposal, which would then be negotiated. That entire contractual process would take about two years, but work probably could continue while the contract is being definitized. The Navy estimates that the total RDT&E cost of a program restarted in October 1990 would be about $986.2 million over a seven year effort.

If the program termination is continued the additional funds could not be used by the program. If Congress mandated the continued development of the program, then the FY 1990 funds could be applied to the restart of the program this year thus reducing the total RDT&E requirement and time stated above. The amount of reduction is contingent upon when the direction was mandated.

OVERHAUL SCHEDULES

Question. Please explain the factors involved in the reduction of $900 million in the ship depot level repair request from FY 1990 to FY 1991.

[CLERK'S NOTE.—See answer to this question as shown on page 546.]

Question. Budget documents provided the Committee indicate that this will result in a ship overhaul backlog of two units. What ships are involved? Is the Navy committed to minimizing the number of backlogs as you go through your FY 1992–1997 planning?

Answer. The two backlogged ships in FY 1991 are:

[In millions of dollars]

LHA–5	$72.2
SSN–708	43.6
Total	115.8

Yes, in our FY 1992–1997 planning, the Navy is committed to minimizing the number of backlogs.

Question. What is the current mix between depot level repair and intermediate maintenance? What do you expect the trend to be in this mix in the next several years?

Answer. The current mix between depot level repair and intermediate maintenance is as follows:

	Fiscal year 1989		Fiscal year 1990		Fiscal year 1991	
	Amount	Percent	Amount	Percent	Amount	Percent
Ship Depot:						
Depot Level Repair	$2,799.9	88.6	$3,407.6	90.2	$2,497.6	84.0
IMA	361.3	11.4	369.4	9.8	477.1	16.0
Total	3,161.2		3,777.0		2,974.7	

It is the Navy's policy to do repairs at the lowest possible level and every effort is being made to execute this policy.

Question. In the past I have been told that after some lean years in the very early 1990s, there will be a glut of scheduled ship maintenance required in the middle part of the decade. Does this still hold true or have force structure reductions eliminated it?

Answer. Yes, this is still true. There will be peaks in scheduled ship maintenance due to initial refuelings of some nuclear class ships.

NAVY FORCE STRUCTURE

Question. What consideration is being given to reduction of carrier battlegroups in the 1992–1997 planning process? If you were forced to live with 12 deployable carrier battlegroups what changes in the way you operate carriers would you consider?

Answer. We are considering all alternatives as we continue to develop the FY 1992 through 1997 Program Objectives Memorandum. The implications of these alternatives are also being considered.

Question. What other force structure reductions are under consideration?

Answer. As we continue to develop the FY 1992 through 1997 Program Objectives Memorandum the entire force structure is being reviewed. Within that context, all alternatives are being considered.

Question. If budget levels fell below the planned 2 percent real reductions now forecast by the Department, say to 5 percent annual real reductions, would you consider further force structure cuts or would you look elsewhere to make reductions necessary?

Answer. Should further reductions in funding targets be mandated, our resultant program must strike the proper balance among competing requirements, including force mix, readiness, sustainability, and investment in research and development.

Question. Among those installations included as candidates for potential closure are Long Beach and Philadelphia Naval Shipyards. What factors are involved in determining whether in fact you will propose closing these yards? If they were closed, how would the Navy adjust its overhaul and repair workload?

Answer. During the selection process for development of the base closure list, it was necessary to evaluate the current and anticipated effects of closing or reducing other activities, the possible force level reductions which will result in excess shipyard capacity, the potential economic incentives of consolidation of functions with other activities, and reduced training requirements.

In the case of Philadelphia, the majority of workload currently being accomplished is for the Aircraft Carrier Service Life Extension Program (SLEP). Should force levels dictate, the SLEP may not be a requirement in the future. Additionally, the SLEP's scheduled for those aircraft carriers after FY-91 may not be required, and these availabilities could be deleted altogether or changed to regular overhauls.

Long Beach Naval Shipyard, along with Philadelphia, is a conventional shipyard. Because Long Beach performs work only on non-nuclear ships, its workload, which does not require large drydocks, may be accomplished by commercial shipyards. It is also anticipated that potential force reductions may create additional underutilized shipyard capacity.

If Long Beach and Philadelphia Naval Shipyards are closed, remaining workload will be distributed among other public and private shipyards. Specific workload adjustments are not yet known.

Question. Some here on the Hill have raised questions about the Everett, Washington homeport initiative in the current budget climate. You have not included it as a closure candidate, nor was it included by the Base Closure Commission. Please explain the contribution you see the Everett homeport making even in a somewhat smaller Navy of the future.

Answer. Changes have taken place which require us to revisit all homeports, including the strategic homeports.

With respect to why Everett was not recently proposed for study for closure/realignment, we were looking principally at existing bases. Bases with extensive facilities and infrastructure (e.g., San Francisco) offered the best opportunities for savings. With some of our older, established facilities nearing the end of their useful life, extensive renovations and/or significant maintenance funds are required. Recent years' funding shortfalls have affected proper operation and maintenance of the Navy's supporting infrastructure. Thus, upgrading and maintaining older facilities at existing bases must be weighed against the costs of constructing and maintaining new bases with modern facilities specifically designed for some of our newer class ships. This is just an example of the many complex facilities-related factors to be considered in arriving at a more modern, effective, and efficient shore establishment.

In addition, locating a Carrier Battlegroup (CVBG) in the Northwest remains a valid strategic objective. A CVBG in the Northwest will improve force dispersal, take advantage of available Selected Reservists, enhance our repsonsiveness in the Northern Pacific/Aleutian Theater, and protect vital oil supplies from Alaska. These

principles guided our decision to develop Everett for homeporting a battlegroup and remain valid. The strategy and logic were reviewed by the Base Closure Commission which explains why they did not make a recommendation to close (or not complete) Everett. Homeporting an entire battlegroup at any of the other existing ports in the Northwest is not practical due to cost and operational considerations; Everett is required.

Ensuring that the shore infrastructure is adequate, within available resources, to support the expected force levels; and preserving the principles upon which strategic homeporting is founded present a significant challenge. A thorough review of the Navy's shore establishment, including the strategic homeports, is underway.

Question. There has also been some concern with respect to potential closures in the Alameda/San Francisco Bay area. What factors will go into making these decisions?

Answer. We recognized that the infrastructure of the Navy will have to be reduced commensurate with reductions in force levels. We are currently involved in a joint service effort to identify areas of consolidation that will be cost effective. Options include consolidating existing assets as well as possible closures. The depot at Alameda was singled out for study because the facility experiences high maintenance costs, recently exacerbated by earthquake damage, and because its workload may be absorbed by the other NADEPs. Other supporting activities in the Bay area, such as the Naval Air Station and the Naval Supply Center, may also be able to generate reductions and savings as a consequence. Other general considerations included the general shortage of affordable family housing for military personnel stationed in the Bay area.

Initial identification of bases for study attempted to reflect operational/strategic considerations as well as the opportunity to realize increased savings wherever possible from the realignment of entire naval complexes rather than scattered individual installations. Greater savings may be achievable from realignment of a complex because several activities may exist to support each other. Chain reactions of reducations may be possible if key activities within a complex can be realigned. Such may be the case in the San Francisco Bay area.

The most critical determinant of our final decisions will be the Navy's projected force structure and the shore support requirements for that force structure. Bases serving similar functions will be compared for relative value based upon factors which were used by the last Base Realignment and Closure Commission (Mission Suitability, Availability of Facilities, Quality of Facilities, Quality of Life, and Community Support). The relative ratings will provide the order in which we shall consider closures or realignments within the functional categories, to the extent force structure levels suggest we may have any excess shoreside capacity. Final decisions will be tempered by geo-strategic considerations, operational considerations and cost/savings considerations.

Question. Can you assure us that the Navy gave no weight to political considerations in developing its closure candidates?

Answer. The Navy gave no weight to political considerations in developing its list of candidate bases to study for possible closure or realignment.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks.]

Mr. MURTHA. The gentleman from Ohio.

AVIATION SAFETY

Mr. MILLER. I noticed, Admiral Trost, that in one area of the report that you were giving—it states that you have set some new records for aviation safety. In comparison to the last two years, the number of major aviation accidents this year is nearly three times lower. That is a very good record. Can you give us some facts and figures on this, as to what it means when you say three times lower? Because you are also saying what the accident rate was in 1980 and that it is now 30 times lower than when you were a junior officer.

Admiral TROST. That is correct. The figure for this past year was actually 1.9 per 100,000 flight hours. The figure the year before was in excess of two accidents per 100,000 flight hours.

Senator Glenn of Ohio, who was flying airplanes when I was commissioned, told me, and we checked subsequently, that the rate when he was a young pilot was so high that they used to talk about 10,000 flight hours, not 100,000. And the rate was about 30 times higher than this past year.

Secretary GARRETT. When I was flying the accident rate was much higher than it is today. We have made, and continue to work to make great strides forward in our safety performance.

When you asked the question, you talked about Senator Glenn. When he was flying they measured the accident rate per 10,000 flight hours. I am reminded of a deployment in the late fifties where the USS RANDOLPH was deployed and one squadron lost 14 pilots in one deployment. That is totally unacceptable.

We have worked hard to improve our procedures, aircraft, training, and the capability of our people. Clearly it has paid off.

Mr. DICKS. Would you yield Mr. Miller? How does this compare with the Army and Air Force?

Admiral TROST. We have to be careful when we compare numbers. The Air Force has a lower rate. In large part that is because they don't fly planes off ships at sea. We have to be careful service by service to state what the numbers are a function of, the conditions under which they fly.

The Air Force numbers for tactical aircraft are similar to ours, but slightly lower. The Air Force rate includes large numbers of hours flying long distances, single flights, and that drives their overall rate down very low.

Mr. DICKS. Thank you, Mr. Miller.

NUCLEAR FREE ZONES

Mr. MILLER. I don't think we covered this morning the nuclear free zones, the special keep out zones, zones of peace. Are they creating a problem?

I understand some nations would like to be able to extend that limitation out another hundred miles or so.

Admiral TROST. There have been a number or proposals, none tied to distances, but rather to large areas. They go back 20 to 30 years. Mr. Khrushchev, when he was head of the Soviet Government, made proposals for nuclear free zones.

The proposal was made in the South Pacific and Indian Ocean as something to appeal to the nonaligned nations and coerce them into keeping our ships out of those areas. The Soviet Union proposed a nuclear free zone in the Baltic because the old and obsolete ballistic missile submarines that they put into the Baltic as a last resort operationally were now beyond operation, so they were retired.

They also proposed keep out zones. That would build their confidence but not mine. We resisted an infringement on free access to the open oceans.

Mr. MILLER. Do we have any problem with our allies where we cannot move our ships into their ports?

Admiral TROST. No. We have periodic peace movements in Denmark and other parts of the world, including Canada, where peace movements object to our ships which they say have a nuclear capability.

The governments have not supported those movements with the exception of New Zealand, which took the position that U.S. ships, having the capability of carrying nuclear weapons, were not admissible to their ports, and we make no port visits there.

DIESEL SUBMARINES

Mr. MILLER. The debate over nuclear versus diesel submarines is an old one, but you point out in your statement that the increased capability and quietness of diesel submarines, apparently there has been a lot of research in this in order to hold the noise level down and not be detected. Is the Navy giving any consideration to the potential of the diesel?

Admiral TROST. With respect to application within our own Navy, we are not. We are concerned about the newer, quieter submarines built around the world. The best built are German and Swedish designs at the present time. They are quiet and require the capability we build into our submarines for counter-detection. If any of those are in the hands of people who wish us ill, we have to be sure we can counter them.

Mr. MILLER. I recall being in Italy some years ago and we were talking about the number of submarines in the Mediterranean. I thought perhaps there may be 20, but I came up with a number, or the people who were responsible for this said there were 99 submarines in the Mediterranean. I don't think they are going to exactly bump into each other, but that is an awful lot of submarines in one area. I am not positive how many we have, but that is a trouble spot in the world. Is that a great problem for us, because there are so many submarines there?

Admiral TROST. It could be. Certainly in a conflict situation, those submarines would be in the hands of friendly and unfriendly people; the majority belong to Spain, France and Turkey, Israel, Egypt, Libya. They are all over the Mediterranean. Fortunately not all are at sea at the same time.

We deploy ——— nuclear powered submarines to the Mediterranean. The Soviets have ——— submarines including nuclear ones. They have had larger numbers in the past. We have a ———. We have good water management practices, and we are operating in

conjunction with friendly nations to assure no submerged interference. That largely takes away our concern in peace time.

Mr. MILLER. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Young.

BASES IN THE PHILIPPINES

Mr. YOUNG. Thank you.

Admiral, in the morning session, which was open, you responded to several questions about the issue of Subic Bay. This afternoon, let me ask you some additional questions a little more specific than they were this morning.

If we should lose Subic Bay, let's assume Mr. Cheney and Mrs. Aquino don't get along, and we don't have Subic Bay, where would we go to establish a compensating facility?

Admiral TROST. Let me, if I may, begin with what is there in the Philippines, and how we use it, and that will give you an idea of the kinds of things we have to offset. In Subic Bay, we have a very capable ship repair facility, with a skilled work force, a major petroleum and ammunition storage capability, and an airfield which supports deployed carriers, and units from those carriers. We have training areas which are used both by our Naval gunfire ships and by our Marines.

In the Clark Air Base complex, we have logistics throughput in support of all our military in that part of the world and also air to ground training ranges used by Navy, Air Force and some friendly nation Air Forces.

When you combine all that and a communications facility near Subic and San Miguel, which we looking to disestablish, we have a sizable support capability for our deployed forces.

Offsetting those in the event of loss would be access to facilities in Guam, a ship repair facility of lesser scale, a naval supply depot, ammo storage, and facilities in Japan.

The training provided at Clark would be something that would be very, very difficult to find in that part of the world. I cannot answer a specific "what if" at this point in time.

Other capabilities that have been offered are ship repair and logistics support out of Singapore. Singapore is a crowded place, and we would be limited in the amount of access we could expect.

Further, there is no location that would provide the geographic and strategic advantage of the Philippines.

As I pointed out this morning, we would rely more heavily on support from the Navy's logistic support ships and probably some contract ships to permit our forces to be properly supported.

Mr. MURTHA. If you would yield, I was just over there. Of course, I was co-chairman of the delegation to oversee the election. The more I look at it, the less possibilities I see of us spending any extended time there. I think the public relations have gone against us.

I think what Mr. Young is asking is the key. I hope the Navy is looking at possibilities. I know it appears irreplacable. But you should think about not sending replacement personnel over there because of the fact that we may have to move them out in the next three, four or five years.

Admiral TROST. We have been working to reduce our presence to the extent and rapidity we can, especially the communications stations, sending more people over there unaccompanied, because we don't have enough housing and cannot count on enough housing of any quality on the economy.

CINCPAC has his plans in hand and has made his report to the Secretary of Defense. Those plans are not new. They are simply undated. I was last directly involved with them when I was the Deputy Commander of the Pacific Fleet. We had plans at that time and have continued to upgrade them and look at places where training might be available if we can get the political accommodation to use them.

General GRAY. If I could add, the area is irreplaceable strategically. It is irreplaceable in that it is our gateway to Southeast Asia, Indonesia, the Indian Ocean. It is irreplaceable in the multifaceted training for all forces. It would take probably multiple sites, to make up for the logistic loss in the facilities.

You mentioned Guam and Singapore. We can probably do some things in places like Palau an perhaps use the airfield in Tinian. We have looked at this for many years and the fallback options between the United States, Japan, Okinawa and Hawaii.

There has been something said about the Secretary of Defense's position. I cannot speak for him. I know he feels strongly about keeping the Philippines. I know he recently appointed Mr. Armitage to be his Philippine negotiator. It would be tragic if it comes down to a dollar issue.

When we talk about good will and friendship, it would be tragic if we made that decision based only on a quantitative, short range, dollar issue vis-a-vis long term strategy.

Mr. YOUNG. That leads me to the next question. If we do move to Guam, Singapore, or wherever, have you had any discussions as to what the cost would be to reestablish those facilities or uprade them?

Admiral TROST. They were addressed in the latest CINCPAC update. I am not familiar with the exact magnitude.

General GRAY. It would be multiple costs because of multiple locations and the skilled work force, or lack thereof.

Mr. YOUNG. I would expect that to be a nightmare. Talking about facilities, what would happen to facilities at Subic if we left? Would we dismantle them or destroy them?

Admiral TROST. That is a matter that would come out of negotiations that we had. I could not give you a concrete answer. I think there would be some things we could insist on moving and some that we would leave for the Philippines. You cannot move the buildings, and fuel tanks, things of that nature.

Mr. MILLER. Will you yield?

Mr. YOUNG. Surely.

Mr. MILLER. Before we get too far away from the amount of dollars, and you mentioned that it should not come down to the amount of dollars that we pay, but by all indications, it has become a political position where the party in power, whoever it may be makes a political football out of the U.S. bases to show that they can get more money from the United States than anybody else.

We just seem to keep paying more, the dollar amount growing every time the contract rolls over. If it continues to grow, it may be worth moving.

General GRAY. There is no question. All I am saying is that it is a long-term thing. There is much more expense, direct and indirect expense, to coming out of the Philippines that I have seen laid out by anybody yet.

Maybe I am just an eternal optimist, but it seems to me that we ought to continue our efforts to turn the situation around in the Philippines and that we should not send any premature signal that it is hopeless, notwithstanding the reports of the Chairman or anybody else.

Mr. MURTHA. If the gentleman would yield, let me go a little bit farther than that. I agree with you completely. Here is the problem as I see it.

When I was there, I met with Mrs. Aquino, Ramos and her foreign minister and also the speaker of the House, who is very close to Mrs. Aquino. I met with her sister and brother-in-law.

Seventy percent of the population favor our bases being extended, but the political reality, as I see it, and that is the thing that concerns me, is that it will be impossible. Already 12 senators have signed on against it. But that doesn't mean anything, there has to be two-thirds. There are 23 senators and 12 have signed against it.

If Mrs. Aquino changes her mind, the senators will change their mind. The signal we sent over with the foreign aid budget is a bad signal.

You have to have some input. You have to tell the Secretary this is irreplaceable. I know she snubbed him and I think it is for her own political life that she snubbed Mr. Cheney, but you have to educate the people over in the White House so they understand the situation.

I agree the bases are irreplaceable, but in fact it is going to be very difficult to turn the Philippine position around. I appreciate what you are saying about money. Our problem over here is that the Foreign Operations Committee does not consider defense, they only consider foreign policy.

We will do our job, but I think you have to be looking at alternatives because it looks very, very difficult to me.

Admiral TROST. There is one other record that is political that may ameliorate some of the pressures. That is the economic factor, not just what we provide in assistance or what we bring in as a result of our presence, but the fact that we, with our presence essentially underwrite the economic investment in the Philippines by Japanese, U.S. citizens and by Filipinos themselves.

Absent that presence, I think it will go down the tubes economically.

Mr. MURTHA. I absolutely believe the presence of the United States is essential to the stability in the Philippines and they are not going to get any foreign investment if the U.S. stability is not there.

I made all those arguments. I may have read it wrong, but I think you have to weigh in stronger with the White House because it has gone so far now it may be irreversible.

Admiral TROST. We have provided our views to the Secretary of Defense and they are well-known.

Mr. YOUNG. Mr. Chairman, your last comment leads to the question I had on this subject. That is, if we leave Subic and Clark, there are going to be hard feelings. There are some hard feelings now, but they will be harder than they are now.

In addition, there is also very strong anti-government and Communist activity in the Philippines that if we had not helped out a few weeks ago or maybe a month ago, chances are the Aquino government may not even be there today.

They told us when we left Cam Ranh Bay that the Soviets would never occupy or use it; they did. If we leave Subic Bay with its buildings and fuel tanks and the things you say we have to leave, what is to keep the Soviets from finding a way through the Aquino government, that would not like us any more, or through a strong Communist presence in the Philippines, what is to keep the Soviets from taking over what we leave behind?

What kind of nightmare does that give you as CNO?

Admiral TROST. There is no assurance if we left facilities behind that they would not be leased or otherwise used by Soviet forces. That would put them astride the critical sea lanes of the South China Seas. That would pose a potential stranglehold over a critical petroleum line for many of our friends and allies as well as our own interest.

Mr. YOUNG. I assume you are talking about this a lot across the river.

Admiral TROST. We have talked quite a lot about that.

Mr. YOUNG. If you have any other ideas or thoughts that you think might be of interest to us, give us a call. We are very concerned, as you are. We would like to be kept up to date on things that might be happening that are not reported in the media.

Mr. MURTHA. Mr. Miller.

Mr. MILLER. I have no further questions.

Mr. MURTHA. Are there any other questions? We have some other questions for the record. Thank you, gentlemen.

The committee will adjourn until 10:00 o'clock Tuesday.

[CLERK'S NOTE.—Questions submitted for the record and the answers thereto follow:]

NAVAL ARMS CONTROL

Question. Admiral Trost, your statement says "the reason naval arms control is not on the agenda is that when national policy makers objectively examine the issue, they find that the variety of naval arms control proposals floated by the Soviets are simply not in our national interest. We have nothing to gain and much to lose." However, you also state "In principle, I have no objection to imposing a limit in the number of nuclear SLCMs (Sea Launched Cruise Missiles)."

What is your advice to the JCS on how to limit SLCMs?

Answer. This question must be answered in two parts: first, how do we limit nuclear SLCMs, and, second, how do we limit conventional SLCMs.

With respect to nuclear SLCMs it has been a consistent USG position which we strongly support that SLCM should not be included in START. It is a flexible theater CINC's weapon which is vital for extended nuclear deterrence, escalation control, and deterrence of nuclear attack at sea ———.

With respect to conventional SLCMs, our position that the U.S. enjoys a comparative advantage in the development of nonnuclear technologies that can increase the nuclear threshold and reduce the likelihood of war. In any subsequent arms control agreement it should be the U.S. position that no restrictions should be established on current or future conventionally armed air- or sea-launched cruise missiles.

Any attempts to limit or constrain SLCMs would result in asymmetrical Soviet advantages.

Question. Please describe the proposals made by the Soviets and why each is objectionable.

Answer. Soviet proposals can be divided into two categories: formal proposals that have been tabled at an established negotiation, and informal ones presented at a variety of fora.

They have submitted various proposals regarding sea launched cruise missiles (SLCMs) in START. Up until the recent Moscow Ministerial, the Soviets had insisted on unacceptable limitations and verification regimes that would have captured both conventional and nuclear SLCM. ———.

The Soviets attempted to introduce naval arms control into the Conventional Forces in Europe (CFE) talks during the negotiations on the mandate. The final mandate, which excluded naval forces, reflected an East-West consensus that reduction of the Soviet ground asymmetry in Europe was the primary, and appropriate, focus of the CFE talks.

A similar effort was made by the Soviets during discussions leading to the current Conventional Defense in Europe (CDE-1B) talks in Vienna. Although the mandate for the talks provided for the inclusion of naval forces only to the extent that they were functionally linked to a reportable land activity, the East tabled a proposal containing eleven naval confidence and security building measures (CSBMs). These measures far exceeded the mandate by calling for constraints on independent naval activity on the high seas. In addition, they sought limitations on the scope and size of naval exercises—impacting on Fleet readiness and the ability to train with our Allies.

In addition to their attempts to inject naval arms control into formal negotiations, the Soviets have been engaged in a continuous campaign since 1957 calling for naval arms control. This is part of a two-fold strategy that provides for the modernization of the Soviet navy while using arms control to constrain the effectiveness of Western navies.

One example of the Soviet rhetorical campaign is the idea of a nuclear freeze. There are several problems with this idea. First, it is not verifiable—there would be no way to be reasonably sure that all parties are complying with the treaty. Weapons carried by submarines would be even more difficult to verify. Secondly, the parties to such an agreement would not be evenly affected.

As a maritime power that must extend the deterrence value of its forces across oceans, exclusionary zones—another Soviet initiative—would greatly impair the effectiveness of that deterrent by reducing our global access as well as by forcing predictable, and easily countered patterns of employment.

The Soviet idea of naval "talks" or "consultations" is not an inherently bad one. However, such talks should have a substantive agenda that consists of items that clearly have the potential of equally enhancing the security of all participants. In this context, talks "among main naval powers" regarding a freeze of regional naval forces flies in the face of the inherent mobility and flexibility of naval forces. U.S. naval forces are used in all areas of the world and must have unconstrained access to our allies as well as crisis centers. Freezing force levels—another Soviet notion—is a concept that works well on land with relatively immobile forces; it is not directly transferrable as an oceanic regime. In addition, who can define "main naval powers"? Should only their naval forces be constrained? Or all regional naval forces? These questions would prove unanswerable in the multi-polar context of today's world, and especially in the Pacific where, unlike Europe, there is no overall alliance structure to deal with.

Similarly, an "international conference" to turn the Indian Ocean, or any body of international high seas, into a zone of peace or ASW free zone, directly contradicts the internationally recognized right of all nations to peacefully operate on the high seas. Restrictions on types of ships that can operate in certain areas is completely contrary to U.S. security interests as a maritime nation. As noted earlier, it is difficult to imagine a non-signatory of such a regime complying with these restrictions.

Trading closures of forward bases, such as Cam Ranh Bay for Subic—a proposal made by Mr. Gorbachev—would not produce an equivalent security benefit for both sides. The U.S. needs forward bases to ensure the maintenance of forward presence in peacetime, and sustainability in crisis or war. As a regional land power, the Soviet Union has no such strategic requirements to accomplish their national objectives.

SEALIFT

Question. Last year, this Subcommittee heard from numerous witnesses that there was a serious shortfall in strategic sealift to satisfy known requirements. This Subcommittee took the lead last year in supporting a $600 million appropriation to begin a program to build sealift ships only to have the funding offered for transfer to other programs. In your statement, Mr. Secretary, you make reference to the sealift policy contained in a Presidential National Security Directive signed in October of 1989. Evidently that directive calls for further study to assemble an agenda of programs and actions to ensure the adequacy of sealift forces, even though the Presidential Commission on Merchant Marine and Defense has recently completed over two years of study.

Is it the administration's intention to study the problem until there are no longer any U.S. shipyards around to build the required ships?

Answer. No. A clear purpose of the National Sealift Policy is to ensure the survival of a shipyard base capable of supporting mobilization requirements. The policy options under review to implement the Sealift Policy include initiatives directed towards ensuring the maritime industrial base.

Nonetheless, the national interest in a merchant marine capable of meeting national economic and defense needs in a conflict situation as envisioned by the Sealift Policy will be best served by a balanced program of initiatives across the maritime industry. Sealift ship construction is one element of the array of economic and political policy options that must be considered in addressing the state and future direction of the U.S. maritime industry. To prematurely address only that aspect of a complex issue risks scarce resources without any assurance that they are being put to the best use in meeting national needs.

Question. What plans are included in the five year defense plan to enhance sealift capability?

Answer. The ——— defense plan proposes to maintain Department of Defense funded sealift capabilities at existing levels. The plan presented emphasizes maintaining the material and training readiness of present forces, and configuring those forces to best serve national security interests in a changing world. Within the Department, priority has been given to enhancing the robustness of existing programs. At the same time, we strongly endorse initiatives outside the Department directed toward increasing sealift force capacity over the longer term, e.g., the Maritime Administration's plan to increase the Ready Reserve Force from 96 to 142 ships by FY 1996, and the implementation under the National Sealift Policy of initiatives to ensure the future vitality of the commercial merchant marine upon which we depend for sealift to meet defense needs.

Question. In light of the move to bring back to the U.S. many of our troops which are presently stationed overseas, in your view is it important that the U.S. sealift capability be enhanced for potential future deployments?

Answer. Strategic mobility is achieved through the triad of prepositioned materiel, airlift, and sealift. Airlift and sealift demands are heavily influenced by the amount of materiel prepositioned in theater, the Army's readiness to move, warning time, and the timing of the political decision to deploy our forces. It is premature to posit sealift as the preferred programmatic response to the many possibilities presented by the return of U.S. forces now forward deployed.

Until we conduct risk and trade-off analyses of the many available options throughout the movement chain, within the context of the events in Eastern Europe, the easing of tensions with the Soviet Union, and the prospect of troop reductions in connection with the CFE negotiations, we cannot be assured that additional investment in sealift will provide the best pay-off for the taxpayers' dollars or satisfy the combat commanders' needs. With these unknowns clarified, we can formulate an integrated programmatic response to where we go from here in strategic sealift, across the other components of the mobility triad, airlift and prepositioning, or in related areas such as Army readiness. The assets we have

today in fast sealift, the Ready Reserve Force, Maritime Prepositioning Ships, and U.S. Flag merchants are adequate to bridge the gap until requirements are solidified, and our maritime industry revitalized.

ANTI-SUBMARINE WARFARE

Question. ASW is said to be the Navy's top priority, yet the budget proposes cutbacks in some key ASW areas. What are your plans for upgrades to Navy world-wide ASW operations centers, and how have they changed within the last year?

Answer. The 18 world-wide Anti-Submarine Warfare Operations Centers' (ASWOC) Command, Control, and Communications (C3) are being modernized by improving and upgrading existing Communications and Automatic Data Processing (ADP) systems. Communications improvements enhance connectivity between ASW elements and force commanders, while ADP improvements enhance the processing of ASW information and C3. The program will take full advantage of software developments in other Navy C3 programs and the rapid technical advances in commercial off-the-shelf ADP hardware.

In December 1989, the Assistant Secretary of the Navy for Research, Engineering and Systems directed termination of the TRW Inc. Long-term, prime contract for full scale engineering development of the ASWOC C3 Upgrade. The contract was terminated for convenience to the government in order to pursue an alternative Evolutionary Acquisition Strategy (EAS). This EAS approach will significantly reduce government costs while meeting ASWOC operational requirements.

Question. What is our strategy for retiring older attack submarines?

Anwer. An attack submarine is certified to operate for seven years following completion of shipyard overhaul. This period is the ship's operating cycle. At the end of an operating cycle, another shipyard overhaul is required to be conducted to certify the submarine for continued operation. The strategy for retiring older attack submarines (greater than approximately 25 years ship age) is to retire the submarine at the end of its current operating cycle.

TROUBLE WITH LONG RANGE AIR ASW CAPABILITY AIRCRAFT

Question. A recent press article quotes the Navy's program manager for the P-7 LRAACA (Long Range ASW Aircraft/P-3 replacement) as saying that the aircraft is overweight and two years behind schedule, with the delay likely to lead to cost increases yet to be determined.

Admiral Trost, what's wrong with the P-7 program?

Answer. The P-7 program is experiencing some cost and schedule problems. These problems, which were identified in a press release made by Lockheed's President late last November, were caused by Lockheed's miscalculation (over estimation) of the degree of commonality between the P-3C and the P-7A. Lockheed announced a $300 million loss in Full Scale Engineering Development (FSED) against fourth quarter 1989. The government's liability for P-7 is limited by the terms of the fixed price (incentive) FSED con-

tract signed with Lockheed in January 1989. The terms of this contract call for a 125 percent cap on the fixed price and a 50/50 ratio for any cost increase above the target price. The maximum liability to the government for the P–7 is approximately $750 million. Regarding schedule, it is anticipated that the P–7's FSED program will be extended by up to two years to account for the change in degree of commonality between the two aircraft. The Navy and Lockheed are currently conducting independent assessments of the P–7A program to determine the full extent of Lockheed's problems. The Navy will use these assessments for future P–7 program decisions.

Question. Is it true that the contractor "ceased work" on the main design effort last November?

Answer. When Lockheed realized that, due to lack of commonality, they were proceeding in the wrong direction on the main structural design, they redirected the design process to get control of the projected excessive weight growth. During the design review efforts, work continued on the overall development of the aircraft systems. Subsequent evaluation, by an independent Navy team, found that the design was sound, that the materials were correct, and that Lockheed should meet operational requirements.

Question. Is there a weight problem?

Answer. Although aircraft weight is currently estimated to be above contract specifications, it remains below the operational requirements. Lockheed has established a strict weight control program.

Question. What are the current first-production and IOC (Initial Operational Capability) estimated dates, and how do they compare to the original plan?

Answer. Current first-production and IOC estimated dates are FY 1993 and FY 1997, respectively. The original first-production and IOC estimated dates were FY 1992 and FY 1995, respectively.

Question. How much of the aircraft design was originally thought to be common with the P–3, and what is really happening now?

Answer. Original estimates of P–3 commonality were as high as 60 percent. Current estimates are now below five percent.

Question. What are Navy plans to adjust the fixed-price development contract as a result of these problems?

Answer. There are no plans to adjust the fixed price (incentive) full scale engineering development contract.

SONOBUOYS

Question. Last year, Congress appropriated a $45 million increase over the budget for the procurement of sonobuoys. The total funding level for sonobuoys was $160 million. Congress increased the budget because testimony revealed that peacetime consumption was depleting war reserve assets. The fiscal year 1991 budget for sonobuoys is $71.5 million, less than half of the current level.
buoys is $71.5 million, less than half of the current level.

Was this reduction made for budgetary reasons or are your peacetime ASW operations decreasing because of changes in the threat?

Answer. Based on approved FY 1990 Non-Combat Expenditure straints. Sonobuoy procurement competes with all other Navy programs for scarce resources and while overall sonobuoy war reserve assets are decreasing, funding is insufficient to fully satisfy these as well as all other Navy requirements. The Department accepts the associated warfighting risks within the available fiscal resources.

Question. To what extent will the 1991 budget cause further drawdown in sonobuoy war reserve assets?

Answer. Based on approved FY 1990 Non-Cambat expenditure Allocation projections for FY 1990, FY 1991 and FY 1992, the FY 1991 budget will cause further inventory reductions by the end of FY 1992 of 42 percent for the AN/SSQ-36, 16 percent for the AN/SSQ-53, 29 percent for the AN/SSQ-57, and 40 percent for the AN/SSQ-62.

Question. How has the submarine threat changed in the last year? What do you forecast for the future?

Answer. Submarine production remains a top priority and the Soviets continue to invest heavily in new undersea warfare technology. The number of combatant submarines launched in 1989 (nine) equals or exceeds totals for each year since 1982, and includes five nuclear submarines—one AKULA, one VICTOR III, and one SIERRA class SSN, one TYPHOON (ending constuction of this class) and one DELTA IV SSBN—and four KILO diesel submarines. This rate will probably continue in 1990 with nine submarines expected to be launched, indicating submarine construction has not suffered under perestroika. The submarine force is essential to fulfilling Soviet wartime strategic objectives, and I fully expect the Soviets will devote considerable resources to submarine production in the coming years, while—at the same time—continuing to scrap antiquated units unsuitable for modern combat. As the CINC of the Soviet Navy stated, "We consider both nuclear and diesel submarines . . . to be the main force of our fleet. ———." They have further attempted to increase the survivability of their SSBN force by reducing SSBN noise levels, upgrading their communication suites, arming them with longer-ranged missiles, and improving the capabilities of general purpose naval forces to protect these units. These continued efforts have made the Soviet SSBN force a much more difficult and elusive target. In addition, the Soviets continue to modernize this force with improved missiles armed with much more deadly—and potentially hard target capable—missiles. The Soviet SSBN force is thus becoming an increasingly important component of Moscow's strategic triad and—while a START agreement would reduce the number of SSBNs—SLBMs will continue to make up approximately 30 percent of Moscow's overall warhead total, approximately 1700-1800 warheads.

With regard to attack submarines, in 1989 ——— modern units (VICTOR III, AKULA, and SIERRA) were available as first line ASW platforms, approximately one-third of the Soviet Navy's SSN order of battle. The continued construction of such SSNs at current rates will increase the proportion of modern ASW platforms in the Soviets' 1999 SSN order of battle to approximately ———.

Advanced Soviet SSNs can also carry the SS-N-21 land attack cruise missile. Continued construction of AKULA, SIERRA and

VICTOR III SSNs will add to the number of SS-N-21 capable units in the Soviet fleet. The supersonic SS-NX-24 is also possibly under development.

A good illustration of the growing capability and technological sophistication of the submarine force even in the face of declining numbers is to compare a first generation Soviet SSGN (the ECHO II) with the latest SSGN platform (the OSCAR II). The OSCAR represents a three fold increase in the number of cruise missile tubes (24 vs 8), and has a significant noise ——— and speed advantage over the ECHO II. In addition, OSCAR's SS-N-19 missile is a great improvement over the ECHO II's SS-N-3/12. Additional technological advances featured on the OSCAR ———.

Soviet efforts to incorporate the latest technological advances on their submarines are expected to continue and should also be reflected in their next generation units now under development. Emphasis will remain on ASW platforms and on ASW technological advances. Research will continue on new technologies such as higher strength hull materials (new steels, titanium, and composites) to allow deeper depths and improved weapons effects resistance, increased power and drag reduction for higher speeds, and continued efforts to improve sound quieting. Diesel technology may include the introduction of an air independent propulsion system. The Soviets' vibrant acoustic and non-acoustic ASW R&D programs will continue. ———.

Question. Will the 1991 budget for sonobuoy procurement cause you to be less responsive to the threat than you have been in the past?

Answer. In order to meet the more sophisticated subsurface threat, sonobuoys are required in sufficient quantities to allow the fleet to train aircrews to a high state of ASW readiness. Preservation of Programming Objective levels within current budget controls will result in reductions to fleet training and operational allocations. The Department accepts the balance between associated warfighting risks and the available fiscal resources.

Question. The Navy has successfully maintained a competitive production base for sonobuoys. What impact will the fiscal year 1991 funding level have on the production base and the ability to maintain competition?

Answer. The ability to maintain competition may be hindered under the FY 1991 funding level in that the AN/SSQ-36 and the AN/SSQ-57 sonobuoys, only one manufacturer could be sustained of the two current producers. For the AN/SSQ-53 and AN/SSQ-77, manufacturing capacity would shrink from three to two firms. The smaller producer base will put the capability to achieve current mobilization requirements at some risk.

NAVY FACILITIES LOCATED IN THE WASHINGTON METROPOLITAN AREA

Question. The Committee is very concerned about the number of Navy facilities still located in the Washington Metropolitan Area. The other services have decentralized many of their commands. Why does the Navy continue to retain its commands in this area?

Answer. The Navy continues to remain in the NCR because moving the Navy is largely an all or none proposition. The Navy is a

platform oriented service. Our planning and acquisition work involves continuous interaction among headquarters activities and the various systems commands to plan, acquire, and support ships, aircraft, weapons systems, and electronics.

To change locations now would involve costly transition, relocation, retraining costs, and severance pay. Indeed, our most recent study concluded that Washington, D.C., would be the most cost efficient metropolitan area for location.

Question. Have there been any recent studies on whether some of the Navy's commands can be relocated from this area? Are any planned?

Answer. Section 2206 of the National Defense Authorization Act for FY 1990, required the Navy to study locations within the State of Virginia to most efficiently carry out its operations. The study was provided to the House Armed Services Committee and Senate Armed Services Committee on January 24, 1990. Incorporated within the study is the Battelle Report completed in March 1988. Battelle conducted a comparative cost analysis of locations in and around Washington, D.C., and the Continental U.S. The cities studied were: Washington, D.C.; Baltimore, MD; Chicago, IL; Houston, TX; and San Diego, CA.

Question. What is the status of Navy's proposal to build office space for 20,000 Navy workers in the Northern Virginia area? Have you been consulted in this decision? Do you believe that this is the best step?

Answer. GSA, on the Navy's behalf, issued a Solicitation for Offers (SFO) for 3,000,000 occupiable square feet to house approximately 20,000 people. (The SFO allows an increase/decrease of 250,000 sq. ft.). Actions to date include:

4 Oct 90—Issuing the procurement document (SFO).

4 Dec 89—Receiving initial proposals.

10 Jan 90—Issuing letters inviting detailed proposals to best qualified offerors.

24 Jan 90—Advertising the Notice of Intent in the Federal Register to advertise public hearings for NEPA process. (20 and 22 Feb)

Five locations have been selected. They are:

Eisenhower Ave.—A 19 acre site near Telegraph Rd. and I-495, adjacent to the Eisenhower Metro Station.

Van Dorn Street—A 37 acre site fronting on Eisenhower Ave. near Van Dorn St., About 2,700 feet to Van Dorn Metro Station.

Seminary Road—A 55 acre site near Seminary Rd. and I-395. Adjacent to a 47 acre botanical preserve. No proximate Metro Station.

Port Potomac—A 28 acre site immediately south of Crystal City, fronting on Route 1. Proposed Metro station adjacent.

Pentagon City/Crystal City—A series of alternatives that involve several parcels within the Pentagon City and Crystal City complexes. Sites are adjacent and proximate to both the Pentagon City and Crystal City Metro stations.

Offerors have five months to prepare detailed proposals. Evaluations and negotiations will take another four to six months. After best and finals are received, economic analysis will be prepared and forwarded to the Armed Services Committee as required by the 1989 Authorization Act. The earliest an award could be made is

January 1991. Actual moves to the new facilities are projected for calendar year 1993.

Question. The Committee believes that an undue hardship is imposed on our servicemen, especially those in the lower ranks, when they are assigned in this area. Mr. Secretary, do you agree with this assessment? What is the Navy doing to alleviate this hardship imposed on its sailors.

Answer. I completely agree with your assessment that there is a hardship imposed on our personnel assigned to the Washington, D.C. area. I would also emphasize that this fiscal burden, although most severe in junior pay grades, is experienced by personnel of every pay grade here. As a general rule, we try to send people to the fleet for their initial Navy tour so that it's a little later in their career when they are stationed here, but that's not always possible.

One major concern is the current housing allowance system which is designed to compensate the member for 85% of his or her housing costs when government quarters are not assigned. In reality, due to congressionally mandated caps and other changes to the original system, a member's housing allowance (the combination of the basic allowance for quarters (BAQ) and variable housing allowance (VHA)) only covers 79.5% of the incurred housing costs. In high cost living areas, this out-of-pocket expense can be substantial, expecially for junior pay grades. For example, a married Navy petty officer in pay grade E4 stationed at the Pentagon receives a housing allowance of only $492.58. With apartments in the D.C. area running between $600 and $1000 a month, the petty officer can look at an out-of-pocket expense of about $108 to $500 and this equates to between 10% and 50% of his or her basic pay.

I would also like to state that this is not an isolated incident. Military personnel in this area and in every other area with a high cost of living suffer from the inadequacies of our housing allowance system. From a parochial point of view, Navy's sailors are hit with this burden more so than their counterparts in the other Services because of our base locations in high cost areas along the coasts.

To assist and support members assigned here, Navy provides or is developing the following types of programs and activities:

A strong DOD Spouse Employment Program: Navy works very hard to ensure that Navy spouses desiring to work find employment.

Child Care: Naval District Washington (NDW) has programmed $3.34 million in Military Construction for child care programs in FY 1992. This will provide for 300 children in the Anacostia area. Opening this August are Anacostia facilities that will handle 100 children. We are looking at location options in Northern Virginia to establish a facility for 100 children. This should become operational later this year.

Information Referral Office: The NDW Family Service Center (FSC) provides referrals on matters such as child care, housing, morale, recreation and welfare activities, special needs, etc.

Starting 1 August 1990, the NDW FSC will institute a week long pilot indoctrination program for new arrivals. Topics will include schools, transportation, housing, referral for most quality of life areas, etc.

Question. Why was the decision made to keep these personnel in the Washington area rather than relocate the functions in cities with a lower cost of living?

Answer. The cost comparisons showed that Washington, D.C., would be the most cost efficient metropolitan area for consolidation of the Navy System Commands.

Question. Are any funds requested in the fiscal year 1991 budget for this move? If so, breakout the dollars by appropriation. If not, in what fiscal year do you plan to request funding for this move?

Answer. There are no funds requested in the FY 1991 budget. The first move is scheduled for FY 1993.

AIRBORNE SELF-PROTECTION JAMMER

Question. The airborne self-protection jammer (ASPJ) program began in 1976 as a common Air Force and Navy solution to an emerging problem. Recently, the program has been plagued by poor test results and delays which resulted in the fiscal year 1990 Department of Defense Appropriations bill removing all money for production while retaining funds necessary to provision F-16, F-14, F/A-18, and AV-8B aircraft to accept the system. The fiscal year 1991 budget request includes funding the Navy effort, but there is no Air Force program.

What does the Air Force defection mean for the cost of the program to the Navy? Is it economical or affordable for the Navy to continue buying the system and is the dual source competitive strategy still viable?

Answer. The ASPJ program is nearing the end of its development process. It is the only system that has the capability to counter the modern threat of the 1990s and beyond. The 20 Production Verification units procured in August 1987 are the same as production units. The poor test results attributed to ASPJ occurred because the measure of effectiveness only addressed the "end game" and failed to include the considerable capability ASPJ provides across the entire engagement time line—specifically, ASPJ's ability to prevent weapon system lock-on and launch. R&D funding (for operational test and evaluation) completes in fiscal year 1991. The contract for 100 Lot 1 production units was signed on October 6, 1989 using fiscal year 1989 procurement funds; therefore, procurement funds for fiscal year 1990 were not required. The withdrawal of the Air Force has required the Navy to review the acquisition strategy for the program. An option is the down select to a single contractor in a future production lot. Preliminary analysis indicates that if down selecting to a single contractor is accomplished for a Navy-only program, the cost will not differ significantly from the original program, with cost growth to the Navy being less than ten percent.

MARINE CORPS M-1 TANKS

Question. In fiscal years 1989 and 1990, Congress funded the procurement of 221 M-1 tanks for the Marine Corps. The Marines planned to procure a total of 476 M-1 tanks to replace the current inventory of 716 M-60 tanks. Why has the Marine Corps now decided to stop M-1 tank procurement at 221 tanks?

Answer. The Marine Corps' focus on low to mid intensity conflict, which emphasizes light and easily transportable weapons sytems, coupled with fiscal constraints, has caused us to terminate our M1A1 tank program after Fiscal Year 1990.

Question. Was the decision to stop buying the M-1 tanks made for budget, force structure, or other reasons?

Answer. As stated above, the reason to terminate procurement of the M1A1 after Fiscal Year 1990 was based on operational considerations and fiscal constraints.

Question. To which units will the 221 M-1 tanks be deployed once they are delivered?

Answer. The Marine Corps will adopt a force structure that calls for equipping two battalions with four companies, three active and an affiliated reserve company. In addition, three Maritime Prepositioning Ship Squadrons would be equipped with M1A1 tanks. The remaining tanks will be used for training and maintenance support.

Question. What does the Marine Corps intend to do with its M-60 tank fleet once the M-1 tanks are delivered?

Answer. The current inventory of 716 M60A1 tanks will be declared as excess and replaced with M1A1 tanks. The M60A1 is a 1950's technology vehicle which lacks the capabilities to defeat potential threats. It has reached the end of its service life and requires increased funds to operate, support, and maintain. The M60A1's are excess and will be turned over to the Primary Inventory Control Activity (PICA), i.e., the U.S. Army. The PICA is responsible for disposal of excess property. As a service declares assets as excess, the PICA directs disposition. In the case of the M60A1, the M1A1 Material Fielding Plan (MFP) will provide disposition instructions to units for excess tanks.

MARINE CORPS LIGHT TANKS

Question. The Marine Corps is planning to test a Light Armored Vehicle (LAV) with a 105mm gun. The Marines are also participating with the Army in testing "off the shelf" light tanks. General Gray, is it possible that the Marine Corps would buy both a 105mm LAV and a second light tank procured by the Army? If so, why?

Answer. The LAV-105 and the light tank, while both possessing a high degree of strategic and operational mobility, are uniquely different systems with different missions. The Marine Corps currently has a requirement for both systems. The primary differences between a LAV-105 and a light tank are their tactical mobility and respective level of armor protection. The LAV-105 is designed as a direct fire system that has the same degree of mobility as other systems within the battalion to include swim capability and helicopter transportability. The light tank, unlike the LAV-105, whose survivability is dependent on its speed and agility, is an infantry support system which requires a higher level of armor protection in a close combat role. If it were not for the current fiscally constrained environment, we would buy both systems.

Question. What are the Marines and the Army doing to harmonize their requirements for a light tank? What are the outstanding issues in this regard?

Answer. We have established a dialogue with U.S. Army armored gun system (AGS) project officers at TACOM, TRADOC, and the Armor Center to determine commonality of requirements and the applicability of each service's programs. There are issues inherent in the Army's requirement for Low Velocity Air Drop (LVAD) and the resultant tradeoff in armor protection which is less than what the Marine Corps envisions for a light tank. We anticipate that these issues can be resolved during the development process.

Question. How would the Marine Corps use a light tank and/or a 105mm LAV?

Answer. The mission of the light tank would be to provide armor-protected large caliber direct fire in support of dismounted and mechanized infantry operations. As an infantry support system, the light tank's armor protection, direct fire system, and enhanced mobility enable the infantry to extend and improve its normal capability in countering an opposing force. Light tanks provide the infantry commander with accurate fires at the critical times. Although light tanks must avoid decisive engagement with enemy tanks, they are integral to the MAGTF's overall antiarmor capability. The LAV-105's role is to provide organic large caliber direct fire in support of those missions assigned to LAI Battalion, i.e. reconnaissance, security, and economy of force operations. The LAV-105's capability to provide large caliber direct fire enhances the employment, effectiveness, and survivability of other systems, i.e. LAV-25 and TOW variants, within the LAI Battalion.

Question. What are the testing and decision milestones for the 105mm LAV and the light tank?

Answer. The light tank plan of action and milestones are being developed and are not available at this time. The LAV-105 testing and decision milestones are:

Development Test II—May 1992-January 1993.

Operational Test II—May 1993-July 1993.

Milestone III (Production)—January 1994.

The milestone schedule has recently changed from the schedule included in the FY 1991 President's Budget due to industry's early feedback on the Request for Proposal which was released in October 1989.

SEA LANCE

Question. Is there another existing ASW weapon that can match the maximum range of Navy sensors other than Sea Lance?

Discuss the range and speed of existing Navy torpedoes compared to those planned for Sea Lance.

Explain how the Navy's objective for Sea Lance to counteract enemy standoff weapon proliferation will be achieved.

Answer. There are no singular ASW weapons that match the maximum range of Navy sensors. The Sea Lance ASW standoff weapon is simply a delivery system for a lightweight ASW torpedo. There are, however, numerous other weapon systems capable of performing the Sea Lance requirement of ASW weapon delivery at maximum sensor range, specifically, Naval ASW aircraft.

Since Sea Lance is only a delivery system the range and speed of the MK-50 torpedo is extended by the range and speed of Sea

Lance. Therefore, a comparison of Sea Lance capabilities to existing torpedoes is not germane.

Enemy standoff weapon proliferation is of limited concern because of the present capability of existing torpedo weapon systems and the acoustic advantage maintained by U.S. submarines to provide a covert offensive strike.

Question. Does the Navy plan to develop some new weapon in Sea Lance's place? What costs would be involved?

Answer. The MK-50 variant for Vertical Launch ASROC is one of several options that are being studied as a replacement to provide surface ships with an intermediate range ASW capability. These studies are on-going as part of the POM-92 process. No detailed information is available at this time.

Question. Did the Navy propose to OSD to cancel Sea Lance, or was it directed on you?

Answer. The Navy recommended Sea Lance for termination as a means of supporting the program adjustment proposals directed by OSD during preparation of the amended budget submission for FY 1991. OSD removed all Sea Lance funding in FY 1991 and out with the submission of the FY 1991 President's Budget. Navy then directed the termination of the program on 31 December 1989 and recoupment of FY 1990 funding in excess of termination requirements.

Question. What are the termination costs for Sea Lance?

Answer. The termination liabilities for the Sea Lance program are $38.8 million. These funds will be distributed among the major contractors, Boeing Corporation (for further distribution to subcontractors), Martin Marietta Corporation, FMC Corporation, and Vitro Corporation, and Navy laboratories, Naval Underwater Systems Center and Naval Ocean Systems Center.

ADP MANAGEMENT

Question. Navy spends over $2 billion annually on ADP. Recently two large Navy ADP systems (STAFS and IDAFIPS) were cancelled after investing hundreds of millions of dollars due to severe cost, schedule, and performance difficulties. Six computer companies also wrote to the Secretary of Defense last year to complain about unfair practices by the Navy which limited competition. Last February, the DOD Inspector General published a report criticizing Navy ADP management in almost every area.

A number of National Academy of Science studies sponsored by the Navy in the early 1980's show "lack of commitment by Navy leadership" as the number one problem. Admiral Trost, how would you characterize Navy leadership's commitment to effective ADP management?

Answer. I assure you that Navy leadership is fully committed to effective Automated Data Processing (ADP) management. The actions necessary to ensure that commitment is effected are occurring. In January of this year I carried out a reorganization of the OPNAV staff to combine Navy's ADP and Telecommunications divisions under a single flag officer to consolidate two highly automated disciplines. In March the Secretary approved and we are implementing the consolidation of the Echelon II level of these same

disciplines with the merger of the Naval Data Automation Command and the Naval Telecommunications Command under a flag officer. This brings the requirements side of Navy together so that we identify what we need at sea to fight smarter and ashore to provide the most efficient administration of the Navy. Simultaneously, and in the letter and spirit of the law, ADP policy resides strictly in the office of the Secretary of the Navy to ensure this vital area is handled only at the highest level in Navy. Finally, we are actively engaged in the process to bring the centralized procurement of ADP into the office of the Secretary of the Navy to ensure the highest level of commitment to this very sensitive area.

Question. Why is Navy ADP such a mess?

Answer. I believe that we have an effective ADP program in the Navy. Management of information systems is a complex process which we are currently working to improve. Given the magnitude and complexity inherent in standardizing support for an organization the size of the Department of the Navy with numerous commands both afloat and ashore, the percent of our total budget spent on ADP is consistent with DoD as a whole and, in many cases, less than indsutry.

We have initiated a number of actions over the past year to enhance management and oversight of our ADP dollars and systems. They include:

Transferring the office of our Senior ADP Policy Official to the newly created office of the Assistant Secretary of the Navy, Research, Development and Acquisition. At the same time, we are reviewing our organization below the Secretariat level for execution of ADP acquisition programs, to delineate the requirements determination function, and separate it from responsibility for the balance of the acquistion process. This will establish clear, simple and direct lines of authority and accountability.

Aggressively pursuing the consolidation of our central design activities and data processing installations on our own and in conjunction with the recommendations in DoD's Defense Management Review.

Coordinating the design, development, and implementation of DoD standard "business' systems as part of DoD's Corporate Information Management initiatives.

Actively utilizing our Information Systems Executive Board, which is currently chaired by the Under Secretary of the Navy, to review our major information systems.

Enhancing competition in the acquisition of automatic data processing resources by ensuring the development of detailed acquisition plans, and requiring documentation of vendor comments and action taken as a result of these comments, as part of an acquisition.

Requiring all Agency Procurement Requests for Delegations of Procurement Authority from the General Services Administration be thoroughly reviewed and certified by a Senior Executive Service or General Officer prior to being forwarded to GSA by the Senior ADP Policy Official.

Assuring that we use existing resources efficiently by disallowing purchase of new ADP equipment until it is clear that requested re-

sources are not available at our Navy Regional Data Automation Centers.

Question. Have you personally read the Inspector General's report?

Answer. I have, and I am aware of improvements that are a result of actions which have been taken to strengthen ADP management in the Navy. For instance, as mentioned earlier, oversight of major automated information systems has been improved through the use of the Information Systems Executive Board which is chaired by the Under Secretary of the Navy. To foster the use of Navy Regional Data Automation Centers we issued guidance which prohibits Navy contracting officers from processing any requests for procurement of ADP resources unless certification is made that those resources are not available from the Navy's Regional Data Centers. We have issued direction that requires the establishment of a programmatic baseline for major ADP projects. These baselines are being used to monitor projects at each major project milestone. I am optimistic that the reforms being instituted will correct many of the problems identified in the DoD IG report.

Question. Navy ADP problems were discussed at length in our Committee reports in the late 1970's. Why do the same problems persist ten years later?

Answer. The Navy has made improvements over the past ten years and will continue to make improvements in the management of information systems. Management of information systems is a highly regulated, technically and procedurally complex process with which most organizations have difficulty. The Navy has its share of problems; however, we have done, and will continue to do many things well. For instance, your Surveys and Investigations staff criticized us for failing to develop standard systems to replace duplicative systems at Navy activities. Since that time the Navy has been, and is continuing to, implement standard, Navy-wide systems in the functional areas of logistics, personnel, and finance. We are also engaged in developing DoD standard systems and consolidating our design facilities.

The Navy has undertaken many initiatives to correct identified management and oversight problems. I believe that establishing our Information Resources Management under the Office of the Assistant Secretary of the Navy, Research, Development and Acquisition elevates and focuses attention on the Navy's ADP problems at a macro programmatic level rather than a symptomatic one. This transition, in addition to the merger of the telecommunications and the information systems functions at the operational level, has put in place the structure required to correct these problems in using a well planned, systematic approach.

Question. What have you done to foster the use of standard systems across the Navy rather than allowing major commands and even smaller organizations to pursue small, fragmented, uncoordinated, and incompatible ADP acquisitions?

Answer. The Senior Information Resources Management Official issues a strategic plan for information resources, building on the business plans of the Department. That plan is augmented by annual strategic plans from each functional sponsor detailing how that functional area is to be provided information support in a co-

herent and coordinated manner. Then each component within the Department prepares and submits implementation plans for their component reflecting compliance with the strategic plans imposed, component business plans, and funding restrictions. These plans are reviewed at an annual planning conference and the Senior IRM Official provides guidance directly to each component directing any changes needed to assure use of standard systems and avoidance of small, fragmented, uncoordinated, and incompatible ADP acquisitions.

We have in place nine Navy-wide contracts, several of which are in conjunction with the Air Force, and are working on sixteen others that will provide standard sources for satisfying a wide range of information technology requirements such as computer aided design and manufacturing, local area networks for personal computers and Defense Data Network interfaces.

Question. Last year the committee expressed great dissatisfaction with Navy ADP, and reduced the budget accordingly. What internal management changes have you made as a result? What will Navy field activities now do differently? Provide for the record a detailed accounting of how each congressional ADP reduction was applied.

Answer. The Navy has undertaken several initiatives, both managerial and operational, which I believe will help us to correct many of the problems alluded to earlier. As I mentioned, realigning the office of the Senior IRM Official, merging telecommunications and information systems at the operational level, and enforcing utilization of regional data centers will provide us with increased focus and discipline in the areas of requirements analysis and operations. We are currently striving to put the proper structure and mechanisms in place to correct the causes of the problems, vice and symptoms, without further obscuring an already complex process.

The FY 1990 reductions were distributed as indicated below. Of the total $161.3 million O&M,N reduction, the $55.9 million attributed to STAFS ($20 million) are "failure to apply FY 1989 reductions" ($35.9 million) had not been budgeted for ADP in FY 1990 and was taken at the expense of well planned executable programs.

[In thousands of dollars]

Claimant—Reduction item	O&M,N	OP,N
NAVSUP:		
SPAR	5,146	15,000
ICP		3,640
SPLICE	600	1,985
APADE	600	
Contract maintenance	8,877	
Miscellaneous	16,924	
SPAWAR:		
Contract maintenance	1,449	
Management practices	3,717	
Miscellaneous		822
CNO:		
Contract maintenance	2,177	
Fedlink	1,150	
Management practices	3,358	

Claimant—Reduction item	O&M,N	OP,N
Miscellaneous		244
NAVAIR:		
CAD/CAM	203	
Contract maintenance	586	
Fedlink	1,250	
Management practices	12,803	
Miscellaneous	1,000	
AA/USN:		
IDAFIPS	15,134	4,455
Contract maintenance	1,091	
Management practices	1,916	
Miscellaneous	1,766	3,026
MEDCOM:		
Contract maintenance	963	
Management practices	1,888	
NMPC:		
Contract maintenance	1,975	
Management practices	6,290	
Miscellaneous	6,190	89
NAVFAC:		
CAD/CAM	1,151	
Contract maintenance	462	
Management practices	3,375	
Miscellaneous	1,064	2,694
CNOC:		
Contract maintenance	1,150	
Fedlink	1,200	
Management practices	1,030	
NAVSEA:		
CAD/CAM	5,419	
Contract maintenance	2,103	
Fedlink	1,400	
Management practices	19,400	
Miscellaneous	498	
CNET:		
Contract maintenance	1,157	
Management practices	2,225	
Miscellaneous	3,984	
SSP:		
Contract maintenance	551	
Management practices	652	
Miscellaneous	2,000	
LANTFLT:		
Contract maintenance	1,513	
Management practices	1,283	
PACFLT:		
Contract maintenance	1,597	
Management practices	2,544	
NAVEUR:		
Contract maintenance	470	
Management practices	275	
TELCOM:		
Contract maintenance	3,879	
Management practices	3,848	
Navy It Total	161,283	31,955

Question. Navy recently requested another National Academy of Sciences ADP study. What will a new study tell you other than the Navy has not bothered to implement the recommendations of previous studies?

Provide for the record the cost of the most recent NAS ADP study and your rationale for requesting it.

Answer. The first National Academy of Sciences study was broadly chartered to investigate Navy non-tactical ADP requirements, management structures, and planning. That study resulted in recommendations calling for changes in focus of management responsibility for information resources, mission-based planning, information systems architecture, and renewed attention to human resources. In response, the Navy transferred responsibility for the ADP Selection Office, created a new division under a flag officer in OPNAV with exclusive responsibility for information resources management, implemented the planning structure mentioned earlier, developed architectures in several functional areas, and initiated changes in both civilian and military career management.

Numerous changes in technology, the competitive environment, and the Department of the Navy itself have occurred since completion of the first study. Further improvements are needed and possible. Specifically identified concerns are: the proper role for regional data automation centers and progress made in executing that role, freedom from bias in computer acquisition procedures, duplication of systems development, and cancellation and redirection of major system development projects. Based on satisfactory results from the first study, the Department expects a new review by a balanced group of outside experts would point the way to additional action which can be taken to enhance our management of information resources.

The total contract cost of the NAS ADP study is $560,000. The rationale for entering into the contract is that the National Academy is uniquely qualified and chartered by Congress to advise the government on technology issues. We benefitted from the previous study and believe we can similarly gain from the current effort.

SHIP MAINTENANCE AND MODERNIZATION

Question. In fiscal year 1990, at the initiative of this Committee, Congress increased the funding level for ship maintenance and modernization by $180 million. This was an attempt to fund work which the Navy was adding to the backlog of ship repair. What has the Navy done with this additional funding? Please be specific with which projects were funded and which shipyards received or will receive the work.

Answer. See the following spreadsheet.

INDEX OF ACRONYMNS

Fleet

LANT	Atlantic Fleet
PAC	Pacific Fleet

Type of Availability

RA/TA	Restricted Availability/Technical Availability
PMA	Phased Maintenance Availability
DPMA	Docking Phased Maintenance Availability
SRA	Selected Restricted Availability
DSRA	Docking Selected Restricted Availability
PMF	Phased Maintenance Availability, Fixed Price
DMP	Depot Modernization Period
EM REP	Emergent Repair

Activity

SPORT	SUPSHIP* Portsmouth, VA
PHILA	Philadelphia Naval Shipyard
NORVA	Norfolk Naval Shipyard
CHASN	Charleston Naval Shipyard
SCHAS	SUPSHIP Charleston, SC
SBOST	SUPSHIP Boston, MA
SJACK	SUPSHIP Jacksonville, FL
SLB	SUPSHIP Long Beach, CA
SSD	SUPSHIP San Diego, CA
PEARL	Pearl Harbor Naval Shipyard

*Supervisor of Shipbuilding, Conversion, and Repair

ACTUAL FLEET DISTRIBUTION OF FY-90 $190M CONGRESSIONAL ADDITION ($000)

Hull	Num	Fleet	TypAvl*	Activ	Previous Start Date	Funding Required
AD	44	LANT	PMA	SPORT	92 FEB 19	$5,870
AE	34	LANT	DPMA	PHILA	90 NOV 12	$5,777
CGN	40	LANT	DSRA	NORVA	90 OCT 15	$24,265
DD	988	LANT	DSRA	CHASN	90 OCT 01	$4,040
DDG	44	LANT	PMA	CHASN	N/A	$7,512
DDG	46	LANT	PMA	NORVA	N/A	$7,489
FF	1089	LANT	SRA	SCHAS	N/A	$3,854
FF	1093	LANT	DPMA	SBOST	90 NOV 16	$6,808
FFG	31	LANT	SRA	SJACK	90 OCT 15	$2,888
FFG	52	LANT	DSRA	CHASN	90 NOV 01	$5,828
FFG	55	LANT	DSRA	CHASN	N/A	$5,415
FFG	56	LANT	DSRA	SBOST	90 OCT 15	$6,179
LKA	117	LANT	DPMA	SPORT	N/A	$6,186
LPD	4	LANT	PMA	SPORT	N/A	$6,291
LPH	2	LANT	PMA	SPORT	92 FEB 06	$5,796
LSD	37	LANT	DPMA	SPORT	91 JAN 14	$6,961
SSN	720	LANT	DSRA	TBD	90 OCT 22	$7,558
			Subtotal Atlantic Fleet RA/TA			$118,717
AOR	5	PAC	PMF	SLB	90 OCT 15	$7,896
DD	967	PAC	SRA	SSD	90 OCT 15	$3,933
LSD	39	PAC	PMA	SLB	91 FEB 04	$6,530
LSD	40	PAC	PMA	SSD	90 NOV 12	$7,388
LST	1187	PAC	PMA	SSD	91 JAN 14	$4,946
FF	1071	PAC	DSRA	PEARL	N/A	$6,200**
FF	1073	PAC	DSRA	PEARL	N/A	$6,200**
FF	1074	PAC	DSRA	PEARL	N/A	$6,200**
AGF	11	PAC	DSRA	PEARL	N/A	$5,000**
SSN	713	PAC	DMP	PEARL	N/A	$7,500
AO	177	PAC	EM REP	PEARL	N/A	$3,700
DD	990	PAC	EM REP	PEARL	N/A	$3,700
AFDM	6	PAC	EM REP	PEARL	N/A	$3,500
DDG	2-CL	PAC	EM REP	PEARL	N/A	$2,000
			Subtotal Pacific Fleet RA/TA			$ 74,693
			TOTAL			$193,410

*Type of availability
**Essential additional repairs to already scheduled availabilties

B. Reconciliation of Increases and Decreases.

		$ in 000
1. FY 1990 Current Estimate		3,835,032
2. Price Adjustments		314,843
A. Annualization of FY 1990 Pay Raises	(241)	
1. Classified	185	
2) Wage Board	56	
B. FY 1991 Direct Pay Raise	(602)	
1. Classified	511	
2. Wage Board	52	
3. Foreign National Direct Hire	39	
C. Civilian Personnel Compensation (Direct)	(717)	
1. Increase reflects anticipated increased participation in the Federal Employee Retirement System (FERS), based on current experience, and increased Federal Employee Health Benefits due to rate increase.	717	
D. Stock Fund	(32,713)	
1. Fuel	17	
2. Non Fuel	32,696 1/	
E. Industrial Fund Rates	(220,455)	
F. Other Pricing Adjustments	(60,115)	

1/ Stock fund pricing adjustments include the impact of the Defense Management Review initiative to reduce supply systems costs by transferring supply systems and inventory control operations from Budget Activity 7, Central Supply and Maintenance, to the Navy Stock Fund.

3. Functional Transfers		-600
A. Transfers Out	-600	
1. Intra-Appropriation		
a) Transfer of resources to other appropriations and accounts to reflect the conversion of contracted advisory and assistance services to in-house performance to reduce the risk of comprise to the acquisition procurement process. Recent examinations by		

the Naval Investigative Service and by the Navy Inspector General have shown that excessive contractor involvement contains the potential for disclosure of sensitive information and improper preparation of specifications or processing of procurement documentation.

4.	Program Increases		546,114
	A. One Time FY 1991 Increases	(1,227)	
	1. Increase for one time repair and maintenance of yard craft YTB 834 and YFN 1198.	1,178	
	2. One additional Civilian personnel workday in FY 1991.	49	
	B. Other Program Increases in FY 1991	(544,887)	
	1. Increase reflects continued data processing initiatives; increases Maintenance Engineering; additional Modernization Planning and Test Development; additional Submarine Ready Resource Material support; and increases in other field activity overhead support.	200	
	2. Increase is for an average grade salary adjustment at PERA CRUDES.	6	
	3. Increase reflects additional SSN submarines being monitored; Maintenance Management System has evolved from development and implementation to program maintenance. In the expanded Extended Submarine Engineered Operating Cycle program, new advance planning engineering and integrated Logistic Support efforts are required for the FY 1993 Depot Modernization periods for the SSN 719 and SSN 720 submarines with Electric Boat Division to configure Vertical Launch Systems (VLS).	1,849	
	4. Increase is due to the fact that the Maintenance Resource Management System (MRMS) will receive residual software maintenance support at additional SIMA sites and will be implemented at 3 sites. In the Support Test Equipment Engineering Program (STEEP), increase is for additional Test Program Set reproductions and an increase in effort in the Automatic Test Equipment Program Package Sets (ATE/TPS) In-Service Engineering Agent (ISEA) Training and Program Support.	2,499	

5.	Increase reflects a full year's operating cost for the USNS HAYES vice a half a year in FY 1990 and an additional 2 post overhaul acoustic trials.	2,858
6.	Increase reflects the additional Availability Planning Months for Surface Ships.	583
7.	Increase for 13 surface ship inactivations, including $39 million for 2 battleships. In addition, this funds advance planning inactivation efforts associated with 2 Nuclear Cruisers and 3 DDG's.	55,070
8.	Program increase is for three additional submarine inactivations with reactor compartment disposals, one inactivation without reactor compartment disposal, six hull disposals and six environmental cleanings.	158,784
9.	Increase in Service Craft Regular Overhauls for the NR 1 refueling overhaul. The NR 1 is a one of a kind, nuclear powered deep-diving research submarine.	49,542
10.	Increase in supplies and equipment repair and replacement required to sustain Shore Intermediate Maintenance Activity (SIMA) workload requirements.	696
11.	Increase in Intermediate Maintenance Activity (IMA) funding to reduce IMA Backlog by 12 man-years.	794
12.	Increase results from a change in the number and mix of ship types being overhauled and advance planning requirements between FY 1990 and FY 1991 as shown below:	236,121

Carriers		8,185
Cruisers	0	3,938
Cruisers (Nuclear)	+1	143,367
Destroyers		735
Amphibious Warfare	+1	68,696
Advance Equipment Repair Program/Planning and Engineering for Repair and Alterations (AERP/PERA)		11,200
		236,121

13.	Maintenance Engineering increase support for port engineering functions of the phased maintenance strategy.	343
14.	Defense Management Review (DMR) Initiative - Civilianization of	246

	military spaces in support functions. Planned substitution of civilian manpower for military manpower in positions which do not specifically require a military incumbent. On the average, a civilian work force is less costly than a military work force, and overhead support type-functions can be performed by civilians as opposed to military. This results in an increase of 15 E/S and 6 WY's in the repair shops of intermediate maintenance facilities. The military manpower reduction for this initiative is reflected in the Military Personnel, Navy account.	
15.	Increase results from the requirement for 3 additional Submarine Battery Renewals and a more expensive mix of Floating Drydock overhauls in FY 1991.	35,296
		-1,546,706
5.	Program Decreases	
		(-997)
A.	One-Time FY 1990 Costs	-997
1.	One Time decrease for repairs and maintenance of yard craft YFNB 41 and YFN 1253.	
		(-31)
B.	Annualization of FY 1990 Decreases	-31
1.	Annualization of the FY 1990 Civilian manpower reduction at Intermediate Maintenance Facilities to effect increased efficiencies ashore -1 WY.	
		(-1,545,678)
C.	Other Program Decreases in FY 1991	-34
1.	Decrease reflects reduced overhead support including ADP equipment purchases and travel at Planning and Engineering for Repairs and Alterations - Carriers (PERA CV).	
2.	Decrease reflects reduced ADP systems capability to support planning efforts for availabilities at Planning and Engineering for Repairs and Alterations-Cruisers and Destroyers (PERA CRUDES).	-175
3.	Decrease reflects an average grade salary adjustment at Planning and Engineering for Repairs and Alterations - Combat Support Ships/Amphibious and Service Craft (PERA CSS/ASC).	-6
4.	Decrease in the Shore Intermediate Maintenance Activity (SIMA) program due to fewer expense equipments procured and installed and less SIMA site support required and a decrease in the the Support Test Equipment Engineering Program (STEEP) for development of 39 fewer Test Program	-1,271

	Packages Sets; and reduced support for the Automatic Test Equipment Test Program Package Sets (ATE/TPS) Coordination Center.	
5.	Decrease reflects the performing of three less mid-operating cycle trials; the completion of the transition of using the USNS HAYES vice the MONOB as an acoustical trail measuring platform. MONOB is to be used for half a year during FY 1990; and the transition of the east and west coast Acoustic Measurement Facilities toward operation and maintenance rather than installation efforts.	-3,402
6.	Decrease reflects reduced corporate history maintenance strategies, less program implementation category updates, and a decrease in modernization engineering depot availability months.	-357
7.	Decrease reflects 16 fewer final preparatory inactivation costs associated with the retirement of DDG's, Amphibious ships and other inactivation advance planning efforts.	-8,129
8.	Decrease reflects a reduction in advance planning efforts for future hull disposals and fewer standalone reactor compartment disposals.	-32,985
9.	Decrease reflects reduced service craft support required in FY 1991 at the Naval Sea Systems Command.	-176
10.	Decrease reflects less planned depot level maintenance work on the Moored Training Ship (MTS).	-367
11.	Minor decrease in supply support required for daily operations at U.S. Atlantic Fleet.	-8
12.	Decrease associated with miscellaneous Other Support primarily the result of a major Restricted Availability (RAV) for the FY 1990 USS CORAL SEA (CV-43) Inactivation.	-27,510
13.	Decreased in funds required for emergent repairs due to a reduction in operating months from 2,561 to 2,473.	-8,494

14. Decrease results from a change in the number and mix of Scheduled Restricted and Technical (RA/TA) Availabilities between FY 1990 and FY 1991 as shown below:			-483,045
Phased Maintenance Avails.	-19	-201,221	
Emergent Repair		-25,420	
Post Shakedown Availabilities	-1	-436	
Deep Submergence Vehicle Repair		-961	
Decreased Habitability		-3,230	
Other Planned RA/TA		-8,791	
Selected Restricted Avails.	-20	-254,657	
		-483,045	
15. Decrease results from a change in the number and mix of ship types being overhauled between FY 1990 and FY 1991 as shown below:			-979,640
Carriers	-1	-301,439	
Submarines	-2	-458,151	
Cruisers	0	-280	
Cruisers (Nuclear)	-1	-183,151	
Destroyers	-1	-23,086	
Small Auxiliaries	-2	-13,533	
		-979,640	
16. Reduced contractor services in support of automated data processing at U.S. Atlantic Fleet.			-79
10. FY 1991 Current Estimate			3,148,683

Question. What is the planned ship maintenance backlog for fiscal year 1991? (For the record, please provide the funding and backlog levels for ship maintenance and modernization for fiscal years 1990-1991.)

Answer. The backlog for fiscal years 1990-1991 is as follows:

FY 1990—$98.0 (2 availabilities)

FY 1991—$115.8 (2 availabilities)

[CLERK'S NOTE.—End of questions submitted for the record. The fiscal year 1991 Posture Statements of the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps as referred to on page 397, follow:]

Annual Report to the Congress

by The Honorable H. Lawrence Garrett, III

on the Posture and Fiscal Year 1991 Budget

of the U.S. Navy and Marine Corps

The Honorable H. Lawrence Garrett, III
Secretary of the Navy

On 13 April 1989, President Bush nominated H. Lawrence Garrett, III, to be the Secretary of the Navy. Mr. Garrett was confirmed by the Senate on 12 May 1989 and took the oath of Office on 15 May 1989, becoming the 68th Secretary of the Navy.

Mr. Garrett was born 24 June 1939 in Washington, D. C., and raised in Miami, Florida. He enlisted in the United States Navy in October 1961 and subsequently qualified in submarines as a machinist's mate. Mr. Garrett was commissioned in April 1964 upon completion of flight training, serving as a Naval Flight Officer aboard maritime patrol aircraft. Subsequently, he completed operational tours in VP-50 including deployments in Vietnam.

In 1972 he transferred to the Judge Advocate General's Corps, where he rose to the rank of Commander. He served from 1974 to 1978 as Force Judge Advocate/Legal Advisor to the Commander, Submarine Forces, U. S. Pacific Fleet, Pearl Harbor, Hawaii. In January 1979, while serving in the Office of Civil Law in the Washington, D.C. office of the JAG, he was detailed to assist in developing the Federal regulations pertaining to the Ethics in Government Act of 1978. In February 1981, he was detailed to the White House as Assistant Counsel in the Office of Counsel to the President. He retired from the Navy in 1981.

Subsequently, Mr. Garrett was Executive Assistant to the President and Chief Operating Officer of the U. S. Synthetic Fuels Corporation. In 1983 he returned to the White House as Associate Counsel to the President of the United States. Mr. Garrett served as General Counsel of the Department of Defense from February 1986 to August 1987. Prior to his appointment as Secretary, Mr. Garrett served as Under Secretary of the Navy from 6 August 1987.

Mr. Garrett earned a B.S. degree in Business Management from the University of West Florida in Pensacola, and received his J.D. Degree from University of San Diego School of Law, San Diego, California, graduating cum laude.

A member of the California and District of Columbia Bars, he is licensed to practice before the United States Supreme Court, the Supreme Court of California, and District of Columbia Court of Appeals, U.S. Court of Military Appeals, and the U.S. District Court for the Southern District of California.

Mr. Garrett is married to the former Marilyn K. Bender of San Diego. They reside in Oakton, Virginia. They have two children, H. Lawrence Garrett, IV and Mrs. Juliana Relihan.

I. The Navy-Marine Corps Team and National Defense

The New Security Environment

Dramatic changes in the world order are now unfolding that are likely to alter fundamentally the basic tenets of U.S. defense planning. Political changes in Eastern Europe, a less immediately threatening Soviet military posture, and progress in arms negotiations are all factors that may broaden the focus and challenge the basic premises of U.S. defense considerations. At the same time, concern about the federal deficit and pressures to increase funding for domestic programs are combining with international events to produce a growing consensus in favor of reducing the defense budget.

While many of the changes taking place today give us cause for great hope, others are cause for great concern. There has been no decrease in regional instability, a simple fact illustrated by events in Asia, Central America, and by continued conflict in the Middle East. Complicating this picture is a rapid proliferation of sophisticated weapons to Third World countries, many with regimes hostile to U.S. interests. While we welcome the new views expressed by Soviet leaders, Soviet military capabilities are still formidable and modernizing, even so far as to incorporate carrier-based high performance aircraft. The Soviet Union, now in the throes of political turmoil, will continue to pose the greatest potential threat to the United States and its allies.

Progress toward a more democratic Eastern Europe, with its potential for lower overall levels of armament, is promising, but as with events in the Soviet Union, the course is uncharted, and success is far from assured. Moreover, threats to U.S. security interests are becoming more widely dispersed and transnational in character, involving problems as diverse as drug interdiction and terrorism. In this new environment, the United States will have an abiding need for military strength that is mobile, adaptable, and that may be operated independently of restrictions to basing and access.

Naval Forces: Still Critical to U.S. Defense

Some aspects of the future, however, are more certain. First, the United States remains unalterably an island nation, a maritime nation, dependent upon the seas which provide the avenues for our international business, for our links to allies overseas, and which provide a haven for a large portion of our strategic deterrent. Second, threats to world peace are spread throughout the world. To support our national security objectives, the Navy and Marine Corps must remain on station, maintaining a global presence with forces that can be tailored quickly to political, military, and geographic circumstances.

For America, the crisis is always an ocean away. If we desire to retain our role of world leadership, we must preserve the ability to influence events far from our shores, an ability exercised by naval forces in response to crises more than 25 times in the last five years. As access to overseas bases becomes more

restricted, as we are able to bring troops home, the President must rely more and more on our ability to operate from the seas. The Navy's sustained worldwide presence at sea lends visible support to alliance cohesiveness, regional stability, and the overall security framework for progress toward U.S. foreign policy objectives of peace and freedom.

Aircraft carrier battle groups offer a means, often the only means, to effect a regional balance of power at the scene of conflict. Our deployed Marine Expeditionary Units are the only ready forces available just off shore from the troubled area. And when the issue is resolved, these forces can just as easily be redeployed, assuming new roles in distant areas of the world. In an era of rapid and unpredictable political changes, this feature is more important than ever. These forces are on station today in international waters and airspace. Using the best of America's technology, these forces can bring combat power to bear, or send clear signals--of resolve, reassurance, or friendship.

Naval forces, to retain their deterrent effect and prompt responsive capability, must consist primarily of active units at high states of readiness. When America needs naval forces to respond, they must be at sea or ready to get underway. Complex warships cannot be easily created or mobilized for war. The Fleet's rapid recovery in preparation for the Korean War, when the battle force expanded from 237 ships in June 1950 to 1,100 ships in July 1951, was based on the large pool of inactive ships (including 29 aircraft carriers, 14 battleships, 51 cruisers, and 400 destroyers and frigates) that had been demobilized immediately after VJ Day. Today, such a pool of inactive ships does not exist. In 1950, the first mobilized aircraft carriers joined the Fleet within weeks. Today, with more complex combat systems, such a build-up for conflict would take years.

America, if she is to remain a world power, will always have a special need for ready, flexible, mobile maritime forces that can preserve our Nation's position of strength around the globe, acting wherever called upon to bring order to unstable and threatening situations. Your Navy and Marine Corps are ready to continue to meet this challenge.

The Navy and Marine Corps Today

As we enter the 1990s, the Navy and Marine Corps team is emerging from a decade marked by growth and substantial modernization, and by a restoration of unit readiness and stocks of war reserve materials that had eroded in the lean years of the 1970s. Our forces are ready, well balanced, and are manned by top quality Sailors and Marines. Our challenge as we plan for 1990 and beyond is to preserve the readiness of our naval forces to support the National Military Strategy, performing our enduring missions of strategic deterrence, power projection, sea control, and strategic sealift in what promises to be an era of rapid but clearly unpredictable change.

The U.S. force of ballistic missile submarines today is the most cost

effective and secure leg of the strategic triad, providing half of the nation's deliverable warheads for only one-quarter of the strategic budget. The new, more accurate, and longer-range D-5 missile will serve our deterrent needs well in an era of sharply reduced strategic inventories.

Our conventional striking power at sea is distributed widely, from the combined punch of a full aircraft carrier battle group, to the independent and selective use of submarines and surface ships with Tomahawk cruise missiles. Just as an aircraft carrier is a sea-based airfield, amphibious ships are the Marines' operating and maintenance bases, logistics and troop assembly areas, and the attack positions from which its forces can strike. Amphibious forces are optimally suited for crisis response missions ashore because they can be deployed, recalled, reconstituted, and subsequently redeployed as the political situation unmasks its demands on our military capabilities. Marine Expeditionary Force modernization has resulted in greater mobility and, through the use of pre-positioned afloat material, greater staying power wherever Marines may be called into action. With a shrinking overseas base network and fewer nations willing to allow access to their facilities, the strike and self-sustaining capabilities of our naval power projection forces are appreciating in value to our security with each passing day.

For a world power separated from its allies by oceans and reliant upon seaborne trade, sea control is the *sine qua non* for the other roles of deterrence, power projection, and lift. Unless we can sail safely, delivery of firepower or support of forces ashore is impossible. The new technologies of low radar observability, electronic warfare, and submarine acoustic quieting are challenging our ability to defend against enemy aircraft, missiles and submarines. Our new aircraft, warships and submarines, by necessity, incorporate the best of these characteristics, and the best available sensors and weapons to defend our forces at sea.

Arms Control

The U.S. objective in arms control is the enhancement of U.S. security while preserving an effective deterrent, supporting alliances, and achieving real reductions in risk. To that end, naval forces are included in U.S. negotiating proposals at the Strategic Arms Reduction Talks (START) in Geneva, and the Conference on Disarmament in Europe (CDE) Talks in Vienna. They are properly excluded from the Conference on Conventional Forces in Europe (CFE) Talks, which are focused on correcting the huge and destabilizing asymmetry in ground forces in Europe.

The U.S. position on naval arms control has been explicitly put forward by the President and many other senior spokesmen in the past few months. The policy of not negotiating on naval arms control is a function of both a clear understanding of the maritime requirements of this nation and a desire to bring the current talks to a successful conclusion within their specified terms of reference.

In contrast, recent Soviet public statements concerning naval arms control have been clearly aimed at negating the West's necessary maritime strength, and thereby limiting U.S. ability to respond to crises or to reinforce our Allies. The U.S. need to operate naval forces, globally and unconstrained, is analogous to the Soviet objective to maintain the freedom to reposition armed forces within their borders. The sea lines of communication defended by the Navy and Marine Corps have exactly the same vital importance to the West as the railway system defended by the Soviet Army.

Our need for credible power at sea is not and never has been related solely to the capabilities of the Soviet Union. Seagoing forces throughout our history have responded time and time again to the nation's call for rapid, effective response to threats to our security. Most recently these threats are posed by less predictable but increasingly capable forces in the Third World. Moreover, any arms control agreement that would restrict our ability to defend our interests anywhere in the world would weaken the West's deterrent posture and consequently decrease Western security.

Anti-drug Operations

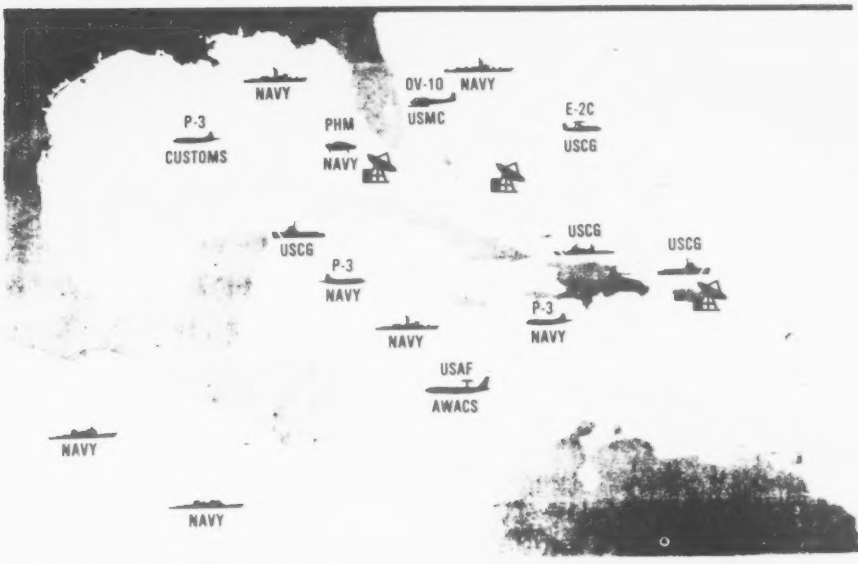
The Department of the Navy is fully committed to the detection and countering of the production, trafficking, and illegal use of drugs. Through assistance and cooperation with law enforcement agencies and other Services, we are taking action to prevent, disrupt, and deter illegal drug use.

The Department of the Navy moved aggressively in the 1980s to attack the drug use which was undermining military readiness. Testing, education, and enforcement within the Navy and Marine Corps has reduced the incidence of drug abuse, as detected by random urinalysis, from 33 percent ten years ago to about five percent today. The policy of "zero tolerance" has had a positive impact on morale, military fitness, and readiness, and stands as a positive example to the rest of society. At the same time, the Department of the Navy has steadily increased its support to law enforcement agencies to stem the pervasive drug trafficking which cripples American society.

While the law directs that military personnel are not to participate directly in search, seizure, or arrest, Sailors and Marines have taken an enlarged role in supporting national counternarcotics operations, and a leading role in detecting and monitoring the aerial and maritime transit of illegal drugs into the United States. In addition, the Department of the Navy directly assists law enforcement efforts through training, facilities, logistics, maintenance, communications, and equipment.

Since 1982, Navy ships have embarked U.S. Coast Guard Law Enforcement Detachments for dedicated counternarcotics operations or when steaming in common drug trafficking areas. Navy ships provide the bulk of the surface and air assets of the joint U.S. Caribbean Squadron, which conducts

COUNTERNARCOTICS OPERATIONS



interdiction operations near to the source countries and in choke points, such as straits where transit routes converge.

Today's expanded anti-drug operations, initially concentrated in the Caribbean area, have been extended to the Pacific. Our ships at sea are empowered at appropriate times to use warning shots, and if necessary, disabling fire to stop drug traffickers before they reach our shores. Navy aircraft, primarily P-3s, E-2s, S-3s, and shipboard helicopters, routinely conduct dedicated anti-drug surveillance operations. Marine OV-10 aircraft have been used as well to support Customs and Coast Guard operations. Marines man surveillance radars in the northern Caribbean area, and conduct joint training with the U.S. Border Patrol in selected areas along the southwest border which are commonly used for drug smuggling.

Navy Drug Interdiction Patrols

Fiscal Year	Ship Steaming Days	Aircraft Flying Hours
1988	2,037	7,382
1989	2,081	10,001
1990*	3,633	40,870
1991*	4,844	40,870

*Estimate

Navy and Marine personnel, both active and reserve, are assigned to the

regional offices of the Office of National Drug Control Policy, the State Department, and to the U.S. Drug Enforcement Administration to provide planning, intelligence, logistics, communications, and operational support. One hundred twenty-six billets at the new joint task forces dedicated to drug interdiction are filled with Navy and Marine Corps personnel.

Naval Operations in 1989

Throughout 1989, Sailors and Marines supported United States security interests in the full range of missions, from strategic deterrence, presence, and humanitarian action, through major international exercises, to crisis response. The summary of selected 1989 events is a clear indicator of the enduring role of naval forces in American security policy.

When not responding to crises or emergent tasking, Navy and Marine Corps units operated last year in all the world's oceans, exercising with European, Asian, and Latin American navies to build expertise and to reinforce the fabric of the alliances which America leads. U.S. ballistic missile submarines, operating quietly and undetected, conducted more than 100 deterrent patrols. While on routine transits and exercises, Navy ships rescued more than 250 refugees in the South China Sea. Ships assigned to the Joint Task Force Middle East escorted U.S. Flag vessels through Persian Gulf shipping lanes, acting as a force for stability in that area, now the scene of an uncertain peace. Marine forces in 1989 completed their Persian Gulf Mobile Seabase operations.

1989 HIGHLIGHTS

January-December: Ships of the Middle East Force in 1989 completed 236 Earnest Will missions, ensuring the safe transit of 262 U.S. Flag ships through the Persian Gulf.

January: Two F-14s from USS JOHN F. KENNEDY (CV 67) shot down two Libyan MIG-23 Fighters which were maneuvering to attack the Navy aircraft.

February: Amphibious ships with an embarked Marine Expeditionary Unit moved toward Lebanon following a missile attack on the U.S. Ambassador's residence.

April: Amphibious ships with embarked Marines and oil recovery craft assisted in the cleanup following a tanker accident in Prince William Sound.

May: Even as events in Beijing unfolded, USS BLUE RIDGE (LCC 19), USS STERETT (CG 31), and USS RODNEY M. DAVIS (FFG 60) were welcomed in Shanghai, in the first visit to that city by U.S. Navy ships since 1946.

June: The fast sealift ship USNS BELLATRIX (T-AKR 288) transported Army personnel and equipment to the Panama Canal in response to political turmoil.

August: USS CORAL SEA (CV 43), USS IOWA (BB 61), and USS BELKNAP (CG 26) and an Amphibious Ready Group with an embarked Marine Expeditionary Unit were stationed off Lebanon in response to the suspected hanging of Marine Lieutenant Colonel William R. Higgins and to threats to other hostages. USS AMERICA (CV 66) battlegroup was ordered to the North Arabian Sea.

August: USS THOMAS S. GATES (CG 51) and USS KAUFFMAN (FFG 59) made a port call in Sevastopol, responding to the July visit of three Soviet ships to Norfolk, Virginia.

September: In the aftermath of Hurricane Hugo, USS CLIFTON SPRAGUE (FFG 16), USS STEPHEN W. GROVES (FFG 29), USS SEMMES (DDG 18), USS PENSACOLA (LSD 38), USNS NEOSHO (TAO 143), USS GUNSTON HALL (LSD 44), and USS AUSTIN (LPD 4) provided emergency services, including communications, medical aid, food, electrical power, and drinking water to residents of Puerto Rico and the U.S. Virgin Islands. Emergency teams of the USS FRANK CABLE (AS 40) and from Charleston area ships and shore activities assisted in disaster recovery efforts in the Charleston, South Carolina area.

October: USS BLAKELY (FF 1072) participated in the 115th combined Navy-Coast Guard drug seizure.

October: Following the San Francisco earthquake, USS LANG (FF 1060) provided steam for power generation, USS GRAY (FF 1054) provided emergency electrical service for the Marina District, and USS PELELIU (LHA 5) and USNS MERCY (T-AH 19) provided food and shelter for hundreds of earthquake homeless. In all, more than 11,000 Sailors and Marines aided in the recovery efforts.

December: U.S. and Soviet navies hosted a summit meeting between President George Bush and General Secretary Mikhail Gorbachev in the Mediterranean Sea.

December: An Amphibious Ready Group with an embarked Marine Expeditionary Unit, the USS MIDWAY (CV 41) and USS ENTERPRISE (CV 65) battle groups, and Marines reinforcing the U.S. Embassy in Manila responded to the attempted coup against Philippine President Aquino.

December: Navy SEALs and Marines participated in the restoration of Panama to elected civilian rule.

II. Resources of the Department of the Navy

Few issues are more discussed and less understood today than the relation of defense spending to the federal budget and to national economics. As the figures show, our current, declining level of defense spending represents a relatively small and decreasing portion of our national economy, and a decreasing portion of federal expenditure. In fact, by the Department of Defense plan, in FY 1995 both measures of defense expenditure will achieve their lowest levels in over fifty years. This general downward trend in defense spending reflects an appreciation of changes in U.S. security needs, taking into account political changes in Eastern Europe and the Soviet Union, as well as the enduring defensive missions of our armed forces. Moreover, the funding level devoted to national defense must reflect primarily the genuine security needs of the nation, as derived from the National Security Strategy.

Defense Budget Trends

Fiscal Year	DoD Percent of GNP	DoD Percent of Federal Outlays
1984	6.0	25.9
1985	6.2	25.9
1986	6.3	26.8
1987	6.2	27.3
1988	5.9	26.5
1989	5.7	25.8
1990*	5.2	24.0
1991*	5.0	23.7
1992*	4.7	23.3
1993*	4.4	22.6
1994*	4.2	21.6
1995*	4.0	20.6

* Estimate

The successive revisions made necessary by the defense budget cuts of the last five fiscal years have had cumulative effects. Foremost is the increased risk which attends the curtailment of some promising development and procurement programs in order to fund our more urgent operating needs. Second, efficiency is lost when we introduce change and instability in procurement programs that increase business costs.

Despite the constant tempo of operations worldwide, funding for Navy and Marine Corps programs has experienced real decline for the sixth straight year. In real terms, the FY 1991 Department of the Navy program remains below that for any fiscal year since 1982. Budget austerity will result in FY 1991 in the deactivation of 23 ships, a decrease only partially offset by the FY 1991 delivery of 18 ships funded in prior years. Deactivated units in FY 1991 include two battleships, 11 guided missile destroyers, one diesel submarine, eight nuclear powered attack submarines, and one fleet oiler. Six frigates and an amphibious landing ship will be transferred in FY 1991 from the active to the reserve fleet. The Marine Corps placed three infantry battalions in cadre during FY 1989 and transferred several active support units to the Reserves. Program cancellations since the FY 1990/1991 President's Revised Budget Submission last year include Maverick after FY 1990 and Harpoon after FY 1991. Procurement of the M-1 Tank concludes in FY 1990 and development funding for the V-22 and Sea Lance is terminated after FY 1990.

Navy battle forces overall will continue to decline in number, from a strength of 566 ships in FY 1989 to a Fleet of 546 in FY 1991. With funds appropriated for FY 1989 the Department of the Navy initiated procurement for 207 aircraft and 20 ships. Funding for FY 1990 will support a buy of 145 aircraft and 19 ships, including an icebreaker for the U.S. Coast Guard. The budget request for FY 1991 includes funding for 178 aircraft and 15 ships.

Budget Priorities

Our challenge is, within fiscal constraints, to provide to the Unified Commanders-in-Chief a Navy and Marine Corps capable of performing their missions, with a strong strategic deterrent, a sustained world-wide presence, and the flexibility necessary to respond to regional threats and to contribute to national goals of deterring terrorism and the interdiction of narcotics trafficking. At the same time, domestic fiscal pressures require that we concisely define and articulate our requirements as we continue to provide for our nation's security needs. Above all, we have worked hard to ensure that actions taken to meet budgetary targets will not produce effects that are difficult, if not impossible, to reverse, should new threats emerge quickly.

The FY 1991 budget reflects these highest priorities:

- People. The Department of the Navy's highest budget priority is sustaining the professional quality of our Sailors and Marines. Only through their efforts can our advanced technology, training, tactics, and strategy succeed. Accomplishing this requires addressing the aggregate of issues in compensation, quality of life, and training programs that attract and retain the best of America's young people.

- Readiness. All deployable Navy and Marine units must be fully manned and ready, in terms of ammunition, spare parts, and training. Naval forces, as shown by our experience in past contingencies, will be given little, if any, time to prepare for combat. Past lessons learned from the days of "hollow" forces shall not be repeated. Sailors and Marines must know that we will not allow readiness to slip.

- Balance. Our plan for FY 1991 strikes a careful balance among competing requirements, including force mix, readiness, sustainability, and investment in research and development.

- Combat capability. Because U.S. superiority in antisubmarine warfare is critical to strategic deterrence, warning, and all other warfare areas, ASW remains the Department of the Navy's number one warfare priority. At the same time, we must prepare for the most likely power projection requirements, retaining a strength that resides primarily in the strike potential of our fourteen aircraft carrier battle groups and the expeditionary capability of our Fleet Marine Force. Moreover, no warfare areas can be neglected in an era of rapid technological progress, when

high-technology weapons spread quickly to unreliable actors, and when the character of military operations is difficult to predict.

- Technology. The qualitative edge enjoyed by the Navy and Marine Corps must endure--in all missions and warfare areas. Such superiority demands a vigorous research and development program to support the forces of the future, whether or not a major new threat emerges in the near term.

III. Sailors and Marines

This meeting is taking place because you have done your jobs; you have done your duty. You and Sailors like you all around the world have kept us strong and helped the horizons of democracy eclipse nation and race. Because of you, freedom is sweeping the globe. Our meeting here off Malta will last two days, but the freedoms that we seek must last for generations.

- President George Bush aboard USS FORRESTAL (CV 59) 1 December 1989

Today's Sailors and Marines are better trained and equipped than at any time in the Navy's history. Today, more than ninety ships are underway, with about 100,000 Sailors and Marines, on station, demonstrating their commitment and dedication to our country by serving in virtually every area of the globe. When our national interest requires military action, as it has more than fifty times in the last ten years, Sailors and Marines have been there, ready and willing to respond as a fully trained, integrated and professional fighting force.

Our volunteer Sailors' and Marines' professionalism and dedication are evident wherever they serve in the Fleet. But sea duty remains a particularly arduous endeavor. Our men and women rate family separation as the number one "dissatisfier" in their careers. Six month deployments, underway periods away from their home ports, and overnight duty inport all combine to strain their quality of life. We must not ask our servicemen and their families to bear the burden of declining defense budgets by retreating from today's Perstempo standards, either by increasing the length of their deployments or by shortening their time inport.

A Sailor's First Tour

Our first term enlistee is typically a high school graduate who finished in the top academic half of his class. He enlisted for four years of service, and received five or more months of military and technical training before reporting to his first ship.

During his first sea tour, our young Sailor will make two six-month deployments to the Western Pacific, the Mediterranean, or the Middle East. Between these major deployments, his ship will spend thirty percent of its time underway for routine testing, training or other operations, such as counternarcotics patrols. At sea, our Sailor has a 70-80 hour work-week, with demands of training, maintenance and watchstanding. Inport, in addition to normal work-day duties, he will spend every fifth night aboard the ship for watchstanding and security requirements.

Through a demanding program of classroom and on-the-job training, the typical first-tour Sailor will acquire the technical competence to maintain equipment under his direct responsibility, often with values of more than $1 million. He will learn quickly about leadership as well, rising typically to the rank of E-5, or Second Class Petty Officer during his first enlistment, a position reflecting his experience, and the special trust and confidence we have in our men and women of the Sea Services.

The people who make up today's Navy and Marine Corps are a mirror image of our society, with the same needs and concerns of every individual American. In addition, these professionals have voluntarily accepted the challenges found in today's Navy and Marine Corps with the faith that we will continue to support them and their families' needs. However recent pay increases have failed to keep pace with inflation and the pay gap

between military and civilian wage growth continues to widen at an unacceptable rate. Unhappiness with pay has returned as the number two "dissatisfier" with Navy life because of this widening comparability gap. Providing our personnel with competitive compensation and benefits is fundamental to our commitment to retaining a competent, professional force.

Today's Marine

Today's Fleet Marine Force is made up of volunteers, men and women personally committed to service, pursuing the intangibles--esprit, pride, courage, self discipline--always associated with the United States Marine Corps.

During his very first tour, a young Marine will deploy overseas at least twice, either afloat or ashore. In both the western Pacific and the Mediterranean, Marines are embarked aboard combat-loaded amphibious ships, on station, ready for action in contingencies that may never happen, or are just about to. In a rapidly changing battlefield, success depends, more than ever, on competence, maturity, and initiative, essential traits to prevail despite unforeseen circumstances.

To cope with these new demands, we have beefed up the warrior skills taught in boot camp, with more weapons training, more field training, and upgrades to our lessons in marksmanship, physical fitness, water survival, and close combat. Before learning his specialized skill, whether avionics technician, artilleryman, or computer specialist, every Marine gets an extra dose of combat training, emphasizing squad level tactics, crew served weapons, and offensive combat skills. We have backed up this program with more training for our non-commissioned officers, to make sure they are ready to lead their units, and to teach their people in basic combat skills.

Today's Marine, like others before him, is ready to fight "in every clime and place", from the snows of Norway to the heat of the Persian Gulf. He's the best qualified, best trained Marine in our history, with the combat skills and the street-smarts to cope with whatever job comes his way.

As we adjust manpower programs to reflect changes in force structure, it is imperative that we improve the quality and experience of our personnel, and thereby sustain or improve Fleet readiness. We must continue to fund personnel accounts to ensure that our people can be promoted, transferred and paid so as to be able to live at a level comparable to their civilian counterparts.

Navy and Marine Corps Reserve

In keeping with Congressional direction, the responsibilities and missions of the Naval Reserve are integral to the Navy's Total Force. Several critical missions are exclusively, or predominantly entrusted to the Naval Reserve. These include helicopter strike rescue and special warfare support, mobile inshore/undersea warfare and, within the continental U.S., heavy airlift and fighter-composite squadrons. The Naval Reserve is now responsible for more than 80 percent of our Control of Shipping organization, cargo-handling battalions, military sealift personnel, and mine warfare ships. Upon mobilization, the Naval Reserve would provide more than 50 percent of our mobile construction battalions, fleet hospitals and special boat forces, and almost 35 percent of naval intelligence personnel and 28 percent of the maritime air patrol capabilities needed in wartime.

As a matter of routine, Naval Reservists train and operate with their

mobilization commands in the fleet. Their professionalism and commitment were very much evident in the Persian Gulf where full time Reserve support personnel (TARS) and voluntarily recalled drilling Reservists worked side by side with their regular Navy counterparts.

The Marine Corps Reserve is structured, equipped, trained, and ready to augment and reinforce the active forces when employed in high intensity conflict. Upon mobilization, this Reserve component provides up to 33 percent of the Marine Corps' wartime manpower requirements, 40 percent of Marine tank battalions, 25 percent of the artillery, 33 percent of the observation aircraft, 29 percent of the aerial refueling aircraft, 28 percent of the light attack aircraft, and 25 percent of the anti-aircraft missile capability.

Our Reserves are ready for selective call-ups, whether for contingencies, major conflict, or special tests of our mobilization capabilities.

Women in the Sea Services

Uniformed women of the Navy and Marine Corps contribute more to accomplishing the Department of the Navy's missions than ever before. Their duties are expanding into every area permitted by law. With the recent selection of women to serve as Commanding Officers of aviation squadrons, ships, and shore commands, Navy women will have a direct, positive impact on every facet of naval warfare. Presently, women make up 9.6 percent of Navy enlisted personnel and 10.3 percent of the Navy officer corps. A variety of billets historically closed to females have been opened, including 88 of 102 enlisted ratings and all of the officer communities except for submarines and special warfare. A refinement of the Defense Department's interpretation of the combat exclusion laws and modified regulations have facilitated the assignment of more women to sea-going billets, and permitted the assignment of women Marines to Marine Security Guard detachments at embassies and to the Marine Security Force aboard bases and ships.

Women now serve at sea in 7938 enlisted and 281 officer billets aboard 120 ships, and 7491 enlisted and 324 officers serve in 110 aviation squadrons. Sea-going billets are found aboard submarine and destroyer tenders, repair ships, a training aircraft carrier, Military Sealift Command Ships, and Combat Logistic Force Ships. In naval aviation these billets are found in maritime patrol, fleet composite, tactical electronic warfare, helicopter combat support, and training squadrons. Active management measures such as selective recruiting and pre-service counselling have also improved the balance between men and women in sea-intensive and shore-intensive ratings. Overall, career opportunities for women have dramatically improved, with women filling responsible, and technically challenging jobs.

Recruiting

The Navy attained 100 percent of its FY 1989 accession goal, with 95,186 accessions, of which 89,379 were non-prior service. Ninety percent of these new Sailors had high school diplomas, and 11 percent came from the lowest recruitable mental group. These quality indicators declined slightly from the previous year. A strong national economy, declining numbers in youth eligible to enlist, and reduced awareness of the Navy among recruitable youth continued to increase the challenge of recruiting. A continued downturn in higher quality non-prior service male accessions required more non-prior service female and prior service male accessions to achieve overall recruiting goals. The Navy's Delayed Entry Program pool of recruits waiting to start their naval service, which provides a buffer for leveling the recruiting effort, declined markedly for the second year, another indicator of increased recruiting difficulty. The Marine Corps continued to meet quality and quantity goals, with high school graduates accounting for 94 percent of their 30,911 non-prior service accessions.

The Navy continues to focus on the interrelated factors of recruiting, retention, and attrition. High quality recruits are more likely to complete their first enlistments, and to contribute to the professionalism, satisfaction, and morale in the Fleet. Together with initiatives to maintain quality of life, such satisfaction also helps retention, which in turn reduces the number of new enlistees needed to sustain combat ready forces.

Competition from the private sector, coupled with young people's perception of today's budgetary climate, may lead the best candidates away from a military career. New initiatives such as increased advertising, the Navy College Fund, and the Navy Technical Scholarship Program are expected to assist the Navy's recruiting efforts. Our advertising and personnel initiatives must continue unabated if we are to attract the best and brightest to serve in our naval forces.

Navy Medicine

High quality, readily accessible medical care is a key quality of life factor for our Sailors and Marines. Not all of our problems are solved, but our progress has done much to reassure our people in uniform of the Department of the Navy's commitment to their health and the health of their families. Some new health care delivery methods hold promise for improving care. Under our managed care philosophy, we assess the level of care necessary in a case, and then determine who can best perform the required treatment. Recent partnership agreements, under which civilian physicians treat our beneficiaries in Navy facilities under a CHAMPUS contract, have improved our ability to provide specialized treatment to dependents. Additional innovations being tested, such as the Family Practice demonstration project, continue to raise our beneficiaries' satisfaction with Navy Medicine.

Navy Medical active duty personnel strength is improving, with Medical

Corps strength better now than at any time since the post-Vietnam draw-down. Our retention and recruiting initiatives and newly revised special pays schedules are having a positive effect. The national nurse shortage continues to challenge our ability to attain our Nurse Corps end strength goal. However, the programs contained in the Department of Defense Authorization Act for Fiscal Years 1990 and 1991, combined with our own recruiting, retention, and educational assistance programs, brighten the outlook for the future.

By contracting for key services within Navy facilities, we are offsetting some of our remaining staff shortages and making better use of our in-house capability. In FY 1989 Navy facilities' patient load increased both in terms of admissions (more than three percent), and outpatient visits (seven percent). Contractor NAVCARE clinics handled 668,591 primary care outpatient visits in FY 1989. At the same time the NAVCARE clinics helped to bring patients back to in-patient facilities. All these initiatives have two goals: increased access to quality care for our beneficiaries and avoidance of unnecessary CHAMPUS costs.

IV. Department of the Navy Programs

As a result of the investments of the past 10 years, the Department of the Navy today enjoys key strengths in terms of the quality of its people, a balanced force structure, high readiness, and a firm technology base. Consistent with the views of the Unified Commanders in Chief, the Department of the Navy program reflects a careful balance among funding of warfare areas, the pillars of force structure, readiness, modernization, and sustainability, and among near- vs. long-term investments.

Fourteen Carrier Battle Groups and three Marine Expeditionary Forces will remain the centerpiece of our naval force structure. These forces will include a balanced mix of modern, highly capable aircraft, surface combatants, submarines, amphibious forces, and mine warfare ships, supported by integrated and inter-operable command and control systems.

In order to ensure that appropriate readiness levels are maintained, we have retained only that force structure which can be manned, equipped, maintained and supported commensurate with requirements. We have considered for inactivation/retirement those aging ships, aircraft, combat systems and other equipments that are approaching the end of service life, provide only marginal capability against the threat, or have disproportionately high operating and support costs. Where possible we have made vertical cuts to retire entire classes of weapons or systems to eliminate all associated infrastructure and support costs. The cost of continued operation has been weighed carefully against such considerations as warfighting contribution, feasibility of rapid reactivation, inactivation/reactivation costs and the cost of long-term storage.

Modernizing Our Forces

In keeping with our emphasis on supporting only those programs that support our long-term security needs, the preferred method for upgrading the combat capability of our forces is through replacement of diverse and aging ships, aircraft, and systems with up-to-date units, of fewer types, that will be less costly to operate and maintain. Unit modernization, including remanufacturing, of existing ships, aircraft, and systems will normally be undertaken only if essential to correct critical deficiencies in combat capability, self-protection, safety, reliability, or environmental protection. In fielding new systems, we have concentrated on those which best leverage the combat capabilities of our overall force.

The Department of the Navy's major combatant ship programs include development of the new SEAWOLF class of nuclear powered attack submarines, the Trident D-5 submarine-launched ballistic missile, and the new class of Aegis-equipped destroyers. The lead ship of this class, ARLEIGH BURKE (DDG 51), was launched in September 1989. Major aviation programs include the new A-12 Advanced Tactical Aircraft, with both Navy and Air Force applications, the P-7 ASW patrol aircraft, the T-45TS trainer, the Navy Advanced Tactical Fighter,

and the Advanced Tactical Surveillance system. Continued progress on these key elements of tomorrow's naval force structure is essential, to retain our position of preeminence at sea.

Marine Corps developmental priorities lay in building an over the horizon assault capability to fill future U.S. needs for swift, effective expeditionary operations. Specifically, the Marine Corps is working to acquire a helicopter replacement for the aging CH-46, and an advanced amphibious assault vehicle, a high water-speed amphibian that can move assault elements of a Marine Air-Ground Task Force from amphibious shipping located over the horizon to inland objectives.

To reduce operating costs and increase commonality, the Marine Corps is reducing the number of types, models, and series of aircraft in its inventory. Requirements will be met with in-production aircraft, incorporating necessary upgrades, such as an improved radar for the F/A-18, the Helicopter Night Vision System for the CH-53E, and the Night Targeting System for the AH-1W.

Research and Development

Our ability to support U.S. national security objectives in the future depends on today's program of research and development. By enhancing the technology base and by ensuring a technically disciplined transition to production, we will increase the reliability, effectiveness, and maintainability of systems and components while reducing manning, support, and subsequent acquisition costs. The Department of the Navy is placing a greater emphasis on science and technology and test and evaluation, to provide resources that keep pace with technological advances and to identify capabilities that can then be selected for production. Our focus is on technologies with the greatest potential for improving combat capability

Key Technologies for the Future

- Modern electronics devices, including: sensors for surveillance, target location, precise navigation, and weapons guidance; advanced computers for data processing and fusion, greater computing power, and communications; and software for sensor processing, data fusion, automation and decision aids.
- Stealth and counterstealth.
- Automation, robotics, and advanced guidance and control systems for unmanned underwater, air, and ground telerobotic vehicles.
- Advances in weapons propulsion and lethality.
- Ship design, including integrated electric drive and weapons systems and superconducting motors.
- Advanced communication architectures and information processing systems, including software advances.
- Advanced materials including superconductors, ultralow-loss fiber-optic cables, thick section composite materials for structures, and gallium arsenide for advanced electronic circuits.

in each warfare area.

Rather than develop technologies on a piecemeal, item-by-item basis, we are identifying linkages between technologies within and across systems. Developing technologies in clusters lays the foundation for system engineering, which can be carried out in parallel with component research and development. Military effectiveness and affordability goals are kept in sight while pursuing an integrated program of development.

One such technology cluster is the Navy's advanced propulsion machinery system, consisting of new design ship propulsors and electrical distribution networks, fed by an inter-cooled regenerative gas turbine engine which drives generators for both propulsion and ship service power. The requisite technologies are being developed in parallel to meet the demands of Fleet firepower performance and affordability, with a view to incorporating this new system in a future surface combatant and other types of ships.

Coordination across systems and platforms is critical to success in each warfare area as well. The Navy's top warfare priority is antisubmarine warfare, which is supported by several programs, including development of the new SEAWOLF class attack submarine, the new P-7 antisubmarine patrol aircraft, shipboard sonar upgrades, and a concentrated program of research. Advances in airframe materials and electronics will provide opportunities in stealth, performance, and cost reduction of missiles and aircraft. We are striving to bring new ideas for ship hull forms, propulsion, and integrated weapons systems out of the labs and into the fleet, and to manage that process in a cost-effective manner through operational prototypes.

Navy Advanced Technology Demonstration Projects

All-optical Towed Array
Unified Network Technology
Airborne Transient Processor
Fiber Optic MK 48 ADCAP Torpedo
Surveillance Infrared Search and Track
Magnetic and Acoustic Detection of Mines
Quiet Weapons Launch
Adaptive Monopulse Countermeasures
Advanced ESM for Ship Defense
Intelligent Welding System
Synthetic Red Blood Cells
Air Weapon Neural Computer
Undersea Weapons Guidance and Control
Advanced Techniques for Combat Wound Management

Advances in missiles and unmanned vehicles, including their guidance, performance, stealth, and cost reduction will foster the development of longer-range and more effective fleet-related airborne surveillance and targeting systems. Missile systems will extend the attack capabilities of platforms that are likely to remain longer with our active Fleet, highlighting the importance of "planned" product improvement for both forces and systems. "Intelligent" machines may reduce manpower and improve combat damage control and shore- and ship-based fleet support.

To streamline the development path of technologies into systems, we are paying special attention to the early phases of advanced development. For example, the Advanced Technology Demonstration program is designed to uncover potential problems prior to large investments. It is the Navy's surest means of transitioning high-payoff technologies into weapon systems.

The requirement to maintain a well-trained Navy and Marine Corps in the face of declining resources and the increasing sophistication of our combat systems poses a tremendous challenge. We are working to develop targets, embedded trainers and training ranges which test the outer limits of our weapon systems and their operators, and provide realistic feedback on their performance at a reasonable cost. As we increase the sophistication and capability of our operational training, we will examine the feasibility of further streamlining the shore training establishment to produce compensatory savings.

Sealift

Sealift is essential to the capability of the United States to project military power abroad in time of crisis or war. In any scenario involving large scale deployments of forces, more than 95 percent of the equipment and resupply material must move by sea.

Although we presently have 167 sealift ships under government ownership and control, the bulk of our sealift forces must come from the private sector--the merchant marine. We are most concerned, therefore, that the United States continues to have a healthy commercial merchant marine. We have taken steps to ensure that special purpose sealift platforms and equipment are in the government inventory, but we continue to believe that sealift requirements are most efficiently and effectively achieved through close cooperation between the military and the merchant marine.

Over the past ten years, the Department of the Navy has funded a number of programs to compensate for military sealift capability lost as the privately-owned U.S.-flag merchant marine declined. It is clearly beyond our means, however, to make up for the continued loss of commercial capability projected for the 1990s. At the request of the Department of Defense, the National Security Council assessed the situation, and in October 1989, the President signed a National Security Directive on Sealift establishing a new sealift policy.

Under the new sealift policy, we will continue to rely on the private sector merchant fleets of both U.S. and allied nations to provide military sealift. To that end, the policy calls for formulation of programs necessary to ensure that adequate sealift assets are available to our military forces. Together, the Department of Defense and the Department of Transportation are assembling an agenda of programs and actions to ensure the adequacy of our sealift forces in the years ahead.

Department of the Navy Infrastructure Ashore

Our priorities in people, readiness, and force balance are reflected in our program of infrastructure. Within budget constraints, we have supported essential upgrades in government-provided family housing, child care, and quality of life for our Sailors and Marines.

The FY 1991 program supports the base realignment and closure actions recommended last year by the Base Realignment and Closure Commission, and initiates new actions to close the following activities:

Detroit Naval Air Facility, Michigan
South Weymouth Naval Air Station, Massachusetts
Nea Makri Naval Communications Station, Greece
San Miguel Naval Communications Station, Philippines
Partial drawdown of forces at Bermuda Naval Air Station

The size and extent of the Department of the Navy's infrastructure, the labs, shipyards, testing and maintenance facilities, air stations, and home ports that support the Fleet, is driven by the requirements of the Fleet and the Fleet Marine Forces. Should further reductions be necessary in the Department of the Navy's force structure, there must occur commensurate decreases in overhead costs, including the consolidation or closure of some supporting facilities ashore.

In each case, the Department of the Navy will initiate the necessary supporting actions required by law, such as environmental impact statements, and for the evaluations covering fiscal, local economic, budgetary, environmental, strategic, and operational factors. We intend to take every possible step to alleviate the economic hardship and personnel turbulence of any necessary base closures.

Environmental Action

Secretary Cheney recently expressed his desire for the Department of Defense to be the Federal leader in environmental compliance and protection. The Department of the Navy's establishment of a new Assistant Secretary of the Navy for Installations and Environment reflects its commitment to environmental protection, and its goal to be the leader in the Department of Defense.

Navy environmental protection policy has been in place since the early 1970s, and has been strengthened by increasing integration of environmental considerations into budget and operational planning. To date, over $2 billion has been expended to comply with changing and even increasing legal requirements. Annual program budgets now exceed $350 million for FY 1990. These efforts

have had concrete results. The Fleet today is equipped to transfer shipboard sewage pier-side while in port. Shipboard discharge of oil at sea is becoming a rarity as separators are installed, and other overboard discharges are under rigid controls. Plastics discharges at sea have been reduced 70 percent over the past year.

Ashore, excellent progress has been made in air pollution abatement, the treatment of industrial waste, and the reduction of hazardous waste. For past hazardous waste disposal sites a Navy-wide program is in place, funded under the Defense Environmental Restoration Account which has identified over 2000 sites at more than 200 installations. Investigations which will lead to remedial actions or cleanups are currently in progress at these sites.

Future, more stringent regulations will require even better shipboard pollution control systems as emissions at sea are restricted even further. As landfills reach capacity, waste reduction and recycling will expand in its importance. New restrictions, such as to chlorofluorocarbon use, must be anticipated through new equipment design. Our stewardship, of the seas and the land we hold in public trust, is the surest way to maintain access to the air, land, and water we need to accomplish our missions.

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V. Managing the Department of the Navy

In-house and contracted Department of the Navy activities include laboratories, testing facilities, manufacturing, inventory management, repair, and most important, worldwide military forces operating in support of national security interests. An expert group of Navy and Marine Corps managers execute over three million contract actions each year, with a value over $55 billion. This makes the Department of the Navy one of the largest research, engineering and production enterprises in the United States.

Many difficult acquisition decisions lie ahead, and we must be willing to revisit prior-year decisions if underlying factors such as budgets and procurement quantities change. While sound business practices must govern our decisions, each case must be evaluated on its own merit. There are many factors which must be weighed, including efficient production rates, the advantages of multi-year procurement, the benefits of competition, and the critical need to maintain the viability of a core industrial base.

Defense Management Review

The Secretary of Defense has approved the Department of the Navy's plans for initial implementation of the Defense Management Report. These Plans prescribe a combination of initiatives which will consolidate and clarify oversight authority, enhance decision authority and accountability of program managers and their direct supervisors, reduce cost, and otherwise improve the Department's acquisition system.

The New Department of the Navy Acquisition Organization

The Department of the Navy will consolidate and streamline top-level oversight of the acquisition process by establishing a new Assistant Secretary of Research, Development and Acquisition [ASN(RD&A)]. The ASN(RD&A) will be responsible for all aspects of research, development, acquisition, and information resources management, consolidating in one office many responsibilities previously divided among the Assistant Secretaries for Shipbuilding and Logistics; Research, Engineering and Systems; and Financial Management. The ASN(RD&A) will be designated the Navy Acquisition Executive, Senior Procurement Executive, and Information Resource Management Official. The Assistant Secretary of the Navy for Installations and Environment [ASN(I&E)], also a new position, will have policy and oversight responsibility for Navy and Marine Corps installations, environmental affairs, safety, and shore resources management, strengthening top-level focus on these critical areas.

The Department of the Navy will also substantially reorganize its acquisition management structure below the Secretariat. Seven Program Executive Officers (PEOs) will be established separately from existing Navy and Marine Corps weapons acquisition commands as key middle managers for major

acquisition programs. Each will report solely and directly to the ASN(RD&A) on all matters concerning cost, schedule, and performance regarding assigned programs. Moreover, three existing Program Managers will also report directly to the ASN(RD&A), rather than through a Systems Command. The plan provides for transfer of a total of 78 major and associated programs to these PEOs and Direct Reporting Program Managers, programs which were valued at more than $19 billion in the President's FY 1990 budget.

Existing Navy and Marine Corps Commands with weapons systems acquisition missions will retain management responsibility for all programs not assigned to PEOs and Direct Reporting Program Managers, and will furnish matrix engineering, contracting, legal and other support to PEOs and Direct Reporting Program Managers. Navy Commands will also retain logistics support responsibilities for all programs. Life cycle management of Marine Corps systems will continue to be performed by the Commander of Marine Corps Logistics Base, Albany.

In reorganizing the Secretariat and the acquisition management structure, the role of support staff, both at the secretariat level and in subordinate commands, will be refocused to ensure that decision authority and accountability is vested in line managers and is exercised at the lowest appropriate level. This approach, together with opportunities flowing from consolidation of previously divided responsibilities, will reduce the Secretariat staff engaged in review and oversight of acquisition matters by more than 20 percent. Reductions associated with streamlining the decision process in existing weapon system acquisition commands will be identified as the decision process is reviewed and changed.

Department of the Navy Management Initiatives

- Improved efficiency of operations at Navy Industrial Fund activities, including shipyards, aviation depots, and research and engineering laboratories.
- Increased competition in areas not historically subject to competition, including breakout and competition of avionics on new procurement aircraft which had historically been procured as sole source by the prime contractors, and competition between public and private concerns for the repair of ship and aircraft components.
- Large lot procurement of naval ships, to permit savings in the purchase of contractor and government furnished material and improved coordination of the shipbuilders' production workforce.
- Ten separate Computer Aided Logistic Support(CALS) initiatives, to improve and reduce the cost of development, maintenance, and dissemination of logistic and design data. For example, print-on-demand output of complete bid packages, accurately incorporating required technical information, at Inventory Control Points, Supply Centers, and Regional Contracting Centers will reduce procurement lead-time and increase competition.

The Navy will also make substantial changes in the Material Professional program through which its surface, aviation and submarine officers are selected for key senior acquisition assignments. Such officers will be selected much

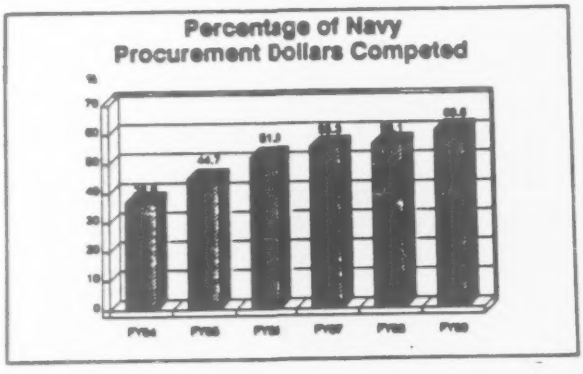
earlier in their careers, and will be managed intensively through graduate education, acquisition assignments ashore, and acquisition-related operational tours to ensure ample experience and expertise prior to assignment to key acquisition positions. The Marine Corps will make similar enhancements in its Acquisition Management Officer program. The Civilian Material Professional program will also be substantially strengthened to develop civilian acquisition professionals for key assignments, including as major Program Managers and PEOs.

In addition, the Navy has undertaken to establish a comprehensive education program, stemming from the Packard Commission Report, directed at program management, financial, and technical personnel. The subject matter includes the technical disciplines and processes involved in design, production, logistics, management, and facilities, utilizing a series of technical reference guides developed specially for the program.

Finally, the Department of the Navy has moved aggressively to identify cost savings initiatives flowing from implementation of the Defense Management Report. Many of these initiatives are coordinated DOD-wide undertakings, including reductions to supply systems operating costs, better accounting and control of government furnished material provided to prime contractors, civilianization of support positions not required to be filled by military personnel, and standardization of ADP systems.

Competition

Competition remains the most effective strategy for program management. With strong leadership and support of top management, acquisition professionals throughout the Department of the Navy have incorporated competitive acquisition as a fundamental tool in their program development.



The FY 1989 final competition statistics reflect the results of this commitment. The percentage of procurement dollars competed increased in FY 1989 for the eighth consecutive year, to an all time high of 60.6 percent. The percentage of contract actions awarded competitively reached a total of 89.6 percent. In terms of dollars, we have increased from $9.4 billion in FY 1982 to $26.9 billion in FY 1989, a $17.5 billion increase. As a percentage of procurement dollars, our FY 1990 goal is a challenging 61 percent.

Over the past five years, the investment made in implementing dual sourcing strategies has resulted in significant cost savings. For example, introducing competition in 1986 in the Standard Missile Guidance, Control, and Autopilot program yielded a price reduction of 35 percent and a projected savings of $360 million over the next five years. The $110 million start-up cost will be recovered more than threefold during that period.

Our experience shows clearly that a competitive marketplace delivers high quality products at fair prices. Competition eliminates the need for time-consuming and costly audits and evaluations. More important, the industry incentive to improve manufacturing capabilities results in increased productivity and quality.

We look to the future with a high degree of confidence that the application of our acquisition strategies will continue to produce meaningful savings. Competition can be employed to enhance innovation, quality, supplier responsiveness, and price consciousness. The demands of a declining budget will require careful analysis of the market forces at work in each procurement action. We must examine how these forces can best be applied to benefit both industry and government. We are sensitive to the impact of competition on our industrial base and on industry's investment in research and development. Our goal is a sound business environment supporting sound defense acquisition programs.

Quality Focused Management

Quality Focused Management is the Department of the Navy's strategy for improving quality and reducing costs and acquisition time. The Under Secretary of the Navy is the focal point for this over-arching effort, encompassing initiatives in acquisition streamlining, value engineering, non-developmental items, productivity improvement, specifications and standards, and Computer-aided Acquisition and Logistics Support (CALS). The primary tools of Quality Focused Management are continuous process improvement, quantitative methods, customer focus, and total employee involvement.

Focusing on Quality saves money. In FY 1989, these initiatives yielded savings and cost avoidance of $2.21 billion. Examples of acquisition streamlining benefits include the Navy's Advanced Tactical Fighter engine program which avoided costs of $1.22 billion and the ES-3A avionics program which avoided costs of more than $553 million. Thirteen months were cut from the procurement lead time for the Engineering Drawing Management Information and Control System. Value engineering for additional capability and quality saved more than $278 million in FY 1989, with follow-on savings potential through FY 1990 of $140 million.

The Navy also has the lead in the Department of Defense Third Party Certification Program. This is a project to reduce redundant audits of contractors by providing a reliable, objective manufacturing assessment by a

nationally recognized certifying body. Industry has identified a potential cost avoidance of $586 million for microcircuits alone.

As a part of the Navy's acquisition strategy and integral to the concept of Quality Focused Management, the Navy will continue to place emphasis on the Manufacturing Technology Program (MANTECH) and strive to take more advantage of the Industrial Modernization Incentives Program (IMIP). These are cooperative programs with industry aimed at improving the productivity and responsiveness of the industrial base while reducing the cost of weapon systems. The MANTECH program has saved $1.2 billion to date and IMIP projects have saved close to $1 billion.

By using off-the-shelf alternatives to government specifications, we can avoid excess design costs and take advantage of commercial standards. In FY 1989, such non-developmental items were used in many programs, including the P-3C Infra-Red Detection System Recorder and the Tomahawk Block III missile.

Computer-Aided Acquisition and Logistics Support, or CALS, is a technique of using computer technology, rather than paper, to support design, manufacturing, and administrative work loads. We are leading a Department of Defense effort to use CALS to cut costs and add flexibility to several programs, including the new A-12 Advanced Tactical Aircraft, the Navy Advanced Tactical Fighter, the MK 50 torpedo, the Stratified Charge Rotary Engine, and the new underwater acoustic Fixed Distribution System.

Training our managers, engineers, technicians, and contracting personnel in ways to benefit from these initiatives is key to further improvement in the acquisition process. The Department of the Navy has trained more than 8500 personnel in these initiatives to date. FY 1989 training included more than 950 people schooled in acquisition streamlining, and more than 960 in the concepts of value engineering. Our experience shows that this training is paying off in terms of efficiency and combat effectiveness. Further, we are educating, in a structured manner, select members of the Navy and Marine Corps commands and senior Department of the Navy executives in the concepts of Quality Focused Management. To date we have trained more than 33,000 people in this area. We are developing follow-on training in the "tools" of Quality Focused Management and how they work.

Conclusion

Today's volunteer professional Sailors and Marines are proud to serve in a revitalized, globally deployed Fleet and Fleet Marine Force, extending the horizons of peace and freedom. All of our men and women, uniformed and civilian alike, are honored to have contributed to the United States strength and resolve that has fostered the peaceful and dramatic events of 1989.

At the same time, we know from experience that uncertainties and dangers remain. The United States is an island nation, dependent upon the

seas for our links to our allies, friends, and trading partners. Our national security will continue to require a strong, reliable strategic deterrent, sea control, and the ability to project power across the world's oceans. As we decide how to structure our defense for the future, we should consider the flexibility and deterrent value of each purchase, favoring those which will have an enduring capacity to respond to the widest variety of likely contingencies.

Our first priority is to retain the professional quality of our people. Their skill and willingness to make personal sacrifices are keys to the success of our investments in technology, force structure, and readiness. They look to us for a fair quality of life, and to provide them with the training and equipment to defend our nation.

The FY 1991 budget will meet our responsibilities to support a proven strategy of deterrence, forward defense, and prompt worldwide crisis response as we enter an era of rapid, and often unpredictable changes in world affairs. The budget reflects a plan that is balanced and affordable. It is worthy of your support.

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APPROPRIATIONS COMMITTEE

STATEMENT BY ADMIRAL C.A.H. TROST, U.S. NAVY

CHIEF OF NAVAL OPERATIONS

BEFORE THE HOUSE APPROPRIATIONS DEFENSE SUBCOMMITTEE

ON THE POSTURE AND FISCAL YEAR 1991 BUDGET

OF THE UNITED STATES NAVY

22 FEBRUARY 1990

NOT FOR PUBLICATION UNTIL
RELEASED BY THE
HOUSE APPROPRIATIONS COMMITTEE

ADMIRAL CARLISLE A. H. TROST
UNITED STATES NAVY
CHIEF OF NAVAL OPERATIONS

Carlisle Albert Herman Trost became the U.S. Navy's 23rd Chief of Naval Operations on June 30, 1986.

The son of the late Elmer H. and Luella (Hoffman) Trost, he was born April 24, 1930, and is a native of Columbia, Illinois. He attended Washington University, St. Louis, Missouri prior to entering the U.S. Naval Academy in 1949. On June 5, 1953, he was commissioned an ensign, graduating first in his class from the Naval Academy.

Following graduation, Admiral Trost first reported to the destroyer USS Robert A. Owens (DD 827) and, in December 1954, detached to attend the Submarine School, New London, Connecticut. In June 1955, he reported to the submarine USS Sirago (SS 485) where he qualified as a submariner in July 1956. From January to June 1957, he attended the Advanced Nuclear Power course at the Submarine Base, New London, Connecticut, followed by further training at the Naval Nuclear Power Training Unit, Idaho Falls, Idaho until September 1957.

In November 1957, Admiral Trost reported to the nuclear-powered attack submarine USS Swordfish (SSN 579) and in December 1959 qualified to command submarines. From January until June 1960, he studied German at the Army Language School, Monterey, California, and was then assigned temporary duty in the Bureau of Naval Personnel, Navy Department, Washington, D.C. In September 1960, he reported to the University of Freiburg, Federal Republic of Germany as an OLMSTED Scholar, serving until January 1962 when he reported as executive officer of the nuclear-powered attack submarine USS Scorpion (SSN 589).

From May to July 1963, Admiral Trost attended the Polaris Command course at the Fleet Anti-Air Training Center, Dam Neck, Virginia. He then reported as executive officer of the Blue Crew of the nuclear-powered ballistic missile submarine USS Von Steuben (SSBN 632). In March 1965, he reported as Military Assistant to the Deputy Secretary of Defense, Washington, D.C.

In January 1968, Admiral Trost assumed command of the Blue Crew of the nuclear-powered ballistic missile submarine USS Sam Rayburn (SSBN 635). In September 1969, he was assigned as Assistant Chief of Staff for Personnel and Administration on the staff of Commander Submarine Force, U.S. Atlantic Fleet. He reported in August 1970 as Executive Assistant and Naval Aide to the Under Secretary of the Navy, and later Secretary of the Navy, serving until June 1973. In March 1973, his selection to flag rank was approved by the President. In June 1973, he assumed command of Submarine Flotilla One in San Diego, California, with additional duties as Commander Submarine Force Pacific Representative, West Coast. (Submarine Flotilla One became Submarine Group Five in July 1973.)

In December 1974, Admiral Trost reported to the Bureau of Naval Personnel as the Assistant Chief for Officer Development and Distribution. In January 1976, he was assigned to the Office of the Chief of Naval Operations as Director, Systems Analysis Division. On August 22, 1978, he was promoted to vice admiral and reported as Deputy Commander in Chief, U.S. Pacific Fleet, Pearl Harbor, Hawaii.

On February 14, 1980, Admiral Trost assumed command of the U.S. Seventh Fleet where he was awarded the Government of Japan's Order of the Rising Sun (2nd Class) and the Republic of Korea's Order of National Merit.

On September 15, 1981, Admiral Trost was assigned as Director, Navy Program Planning on the staff of the Chief of Naval Operations. On October 4, 1985, he was promoted to the rank of admiral and became Commander in Chief, U.S. Atlantic Fleet and Deputy Commander in Chief, U.S. Atlantic Command.

Admiral Trost's personal awards include the Distinguished Service Medal (2); the Legion of Merit (3); the Navy Achievement Medal; the Navy Expeditionary Medal; the Navy Occupation Service Medal (European Clasp); the National Defense Service Medal with Bronze Star; the Antarctica Service Medal; the Humanitarian Service Medal; the Sea Service Deployment Ribbon; and a number of awards from foreign countries.

He is married to the former Pauline Haley of Cottage City, Maryland. Admiral and Mrs. Trost have four children: Carl Michael, Laura Lee, Steven Glenn and Kathleen Susan.

A REPORT BY
ADMIRAL C.A.H. TROST
CHIEF OF NAVAL OPERATIONS
on the Posture and Fiscal Year 1991 Budget
of the U.S. Navy

THE STRATEGIC PICTURE -- CHANGE AND CONTINUITY

The world is experiencing breathtaking changes. Power relationships that seemed firm yesterday are changed today. We face a new strategic era and a new strategic environment. To a great extent, geopolitical prospects in Europe are ones that we have long sought -- democratization of Eastern Europe and a reduced Soviet presence on NATO's doorstep.

Perhaps we are at the end of the Cold War, however, this does not mean the end of political, ideological, diplomatic, economic, technological or even military rivalry among nations. It does not mean the end of competitiveness. It does not mean the end of the struggle for power and influence. It may well mean increased instability, unpredictability and violence.

While it is true that the Soviet Union remains a formidable military power, it is also true that it is preoccupied with internal reform and appears genuinely committed to a peaceful and friendly relationship with the United States. As the Soviet Union struggles to improve its faltering economy and quality of life for its citizens, the willingness and desire of its leaders to engage in aggressive destabilizing foreign affairs may wane.

It is important to remember that the "Cold" War has been waged on ideological and economic grounds, underwritten by military power. There is no question that, on the basis of political and economic philosophies, democracy and the free market system have

triumphed.

The military facet of this competition has not disappeared, however. Besides their own substantial military capabilities, it is clear that the Soviets remain interested in playing a major role in the Third World, but their ability to participate in any meaningful way is limited to their ability to provide one kind of dependable aid -- weapons and military equipment. Whatever course Mr. Gorbachev's reforms take, even should they result in a truly democratic and pluralistic society, the Soviet Union, because of her geostrategic dominance of the Eurasian land mass and latent military power, will remain a power with which we must reckon.

This point was especially brought home to me during my visit to the Soviet Union in October 1989. One cannot visit that country and fail to come away with a high regard for the resilience of its people in the face of enormous difficulties. What the visitor also develops is a healthy respect for the immensity of the Soviet Union and the sheer will of the Soviet Union to retain its position as a global superpower.

It is worthwhile to note that the geostrategic differences between the Soviet Union and United States have led to strategic disingenuousness on the part of the Soviets. They claim our forward naval deployments are offensive and fail to account for their new defensive doctrine. This public argument neatly fails to recognize that many of our most vital interests are across oceans which surround Eurasia and the Soviet Union. Our European allies are overseas, our key trading partners in Asia are overseas and major sources of oil in Alaska and the Middle East are overseas. Our important Asian allies are overseas. We can not sacrifice either the security of interests friends who share the Eurasian landmass with the Soviets, in order to make the Soviets feel "more secure," particularly since it is clear that the West does not possess the military capability to pose a credible conventional threat to the Soviet homeland.

This is geographic and strategic reality. Maritime forces as well as overseas bases that support land based air forces (both Navy and Air Force) are required to defend interests. These bases, some of which we have maintained since the 19th century, are on the periphery of the Soviet Union because that is where our friends and interests reside -- not because we intend to attack the Soviet Union. Were we to withdraw from this posture, we would destabilize much of the world, leaving friends and allies to fend for themselves.

THE SOVIET NAVY -- THE CAPABILITY WE CAN NOT IGNORE

The Soviet Navy is modernizing and improving its capabilities. They continue with a robust aircraft carrier construction program. The TBILISI is conducting sea trials and has conducted flight operations with three different models of front line Soviet aircraft. Construction is ongoing on a second TBILISI class carrier, RIGA, as well as the lead ship of a larger follow-on carrier, ULYANOVSK. Both of these ships are scheduled for commissioning this decade. Their 1989 submarine construction rate matched their 1988 rate -- nine ships -- and double United States' production. I do not want to dwell simply on numbers, however. To me, the most interesting and potentially troublesome facet of current Soviet naval developments is that they have adopted our philosophy and are willing to sacrifice quantity in order to emphasize individual unit capability. My greatest concern is in the qualitative improvements being made. I have been aboard some of their newest classes of warships and can assure you that the Soviets are clearly building a better Navy.

Their competitive strategy is clear. It is to improve the quality of their fleet, incorporating new systems; while negotiating for reductions in U.S. naval capability. They are maintaining an extensive and impressive R&D program, while living within fiscal constraints by cutting operating costs, scrapping

obsolete units and, where necessary, slowing introduction of new systems.

LOW INTENSITY CONFLICT -- THE MOST LIKELY THREAT

While we intend to keep a weather eye on Soviet naval developments, it is clear that the most probable threat will continue to be in the developing world. A few years ago the Navy coined the term "violent peace" to describe the circumstances in which naval forces have operated since the end of the Korean conflict. Our country, while officially at peace, was continuously confronted with situations such as terrorism, regional conflict, threats to U.S. citizens -- that required military responses. More often than not, these responses involved naval forces. The waning of the Cold War has not changed this reality. Third World problems that have vexed national decision-makers since 1945 remain. What has happened, however, is a refocusing of the national defense debate from the receding Soviet threat to the problems associated with keeping stability in an era of violent peace.

There are many regions of the world where the probability for conflict is high. Rising populations, nationalist movements, terrorism, religious zealotry and struggles for control of crucial resources all fuel regional wars and antagonisms.

There was a time when conflict in developing countries conjured a vision of simple, low-tech warfare that would not require sophisticated weapons. That time has passed. Today, around the globe, developing countries are armed with "First World" weapons. Proliferation of chemical weapons, growing access to nuclear weapons capability, and proliferation of cruise and ballistic missiles, submarines and high-performance tactical aircraft mean that virtually any nation or group of terrorists can bring capable and deadly weapons to bear.

Because naval forces have been continuously involved in responding to crises, I am particularly concerned about easily operated, high-technology weapons proliferation throughout the world. This adds a most difficult and dangerous dimension to the missions of peacekeeping and conflict containment. As countries become more independent from traditional power centers and as the world becomes more multipolar, commercial relationships with a wide variety of arms suppliers will ensure a world armed with an assortment of sophisticated and lethal weapons, specifically (excluding the United States and the Soviet Union):

- o 102 countries worldwide now have cruise missiles; by the year 2000 at least 15 countries will be producing their own ballistic missiles

- o 41 countries worldwide now have naval mining capability

- o 14 countries worldwide now have chemical weapons; 11 suspected developing

- o 3 countries worldwide now have bacteriological weapons; 15 suspected developing

- o 40 countries worldwide now are arms producers

- o 41 countries worldwide now have diesel attack submarines; in the third world alone, there are nearly 250 diesel submarines.

These factors, combined with a history of violent relations and mistrust between such countries as India and Pakistan, Egypt and Libya, Syria and Israel, North and South Korea, Iran and Iraq, Cambodia and Vietnam, make the prospects for continued violence high. The nuclear race on the South Asian subcontinent is particularly worrisome. Regional conflicts will be increasingly deadly because of the availability of weapons of mass destruction and the demonstrated willingness of at least some belligerents to violate long standing taboos against their

use. Space launch vehicles, for example, under development in Iraq, Brazil, India, Pakistan, Taiwan, Israel, Japan and Argentina, can easily be transformed into long-range land-attack missiles. High technology weapons proliferation is a serious threat that requires defenses of equal or better sophistication and capability.

The fundamental defense issue for the United States in the foreseeable future is to maintain a military posture that protects our interests and those of our allies from a diversity of regional threats, while also maintaining a credible deterrent posture vis-a-vis the Soviet Union. It is clear that we must have the capability to respond in a flexible and calibrated manner. As a nation we should never be forced to act hesitantly or rashly because of a limitation of means. Where the potential for interruption of necessary resources occurs, or where the safety of American citizens is involved, or when regional stability is dependent on an American presence, maritime forces will be needed.

The inherently deployable Navy/Marine Corps team is of unique value to the nation. The mobility, staying power, long reach and ability of naval forces to influence events ashore, because of sea-based air-power, cruise missiles and amphibious assault capability, contribute to East-West deterrence while simultaneously being the most diverse and flexible force for presence and regional response.

RESPONDING TO CRISES -- THE VALUE OF SEA-BASED FORCES

It is not a coincidence that naval forces have been the most acceptable form of military presence and response in crisis situations. They convey calculated ambiguity and calibrated response. At the same time, their presence on the high seas does not irrevocably commit the United States to a given course of action. They are deployable, can remain indefinitely in the region, off shore, over the horizon, unseen but not forgotten,

ready to operate at varying orders of magnitude. They complicate the calculations of parties opposing our interests. Naval forces have provided this kind of effective crisis response throughout the nation's history, and most particularly since 1945. We are well practiced veterans of this type of employment.

During the 1980s, naval forces were called upon to act in our nation's behest no fewer than fifty times. It is illuminating to list some representative occasions from the past few years, as a reminder of how commonplace it has become for naval forces to be the leading edge of national response when our interests are threatened overseas. Some representative examples include:

March 1986: In response to Libyan SA-5 missile attacks on U.S. aircraft, USS AMERICA and USS CORAL SEA carrier battle groups' aircraft destroyed two Libyan missile patrol boats.

April 1986: After the bombing of the La Belle discotheque, aircraft from USS CORAL SEA and USS AMERICA carrier battle groups, with Air Force FB-111s from the UK, conducted strike operations against targets in Libya.

January 1987: USS KITTY HAWK carrier battle group transiting to the Mediterranean was detained in the Northern Arabian Sea in response to the Iranian installation of Silkworm missiles in the vicinity of the Straits of Hormuz.

July 1987: USS CONSTELLATION carrier battle group was ordered to the North Arabian Sea to support the escort of reflagged tankers transiting the Arabian Gulf during the Iran-Iraq War.

September 1987: The frigate USS JARRETT captured an Iranian vessel laying mines in the Arabian Gulf.

October 1987: USS RANGER and USS MISSOURI battle group ships, in concert with U.S. Navy units of the Middle East Force, destroyed three Iranian oil drilling platforms.

January 1988: Because of internal political instability and a military coup, Amphibious Ready Group/Marine Expeditionary Unit was positioned off the coast of Haiti, prepared to evacuate personnel/refugees.

April 1988: USS ENTERPRISE carrier battle group surface combatants and aircraft, in concert with U.S. Navy units of the Middle East Force, destroyed Iranian naval units in retaliation for the mining of USS SAMUEL B. ROBERTS.

September 1988: To guarantee stability, USS NIMITZ and USS MIDWAY carrier battle groups were on station off Korea during the Olympic Games.

February 1989: Amphibious Ready Group/Marine Expeditionary Unit moved to the Eastern Mediterranean and Lebanon following a missile attack on the U.S. Ambassador's residence.

June 1989: Fast sealift ships transported Army personnel and equipment to the Panama Canal in response to the unstable political situation and assault on opposition party candidates.

August 1989: USS CORAL SEA, and USS IOWA battle groups were stationed off Lebanon; USS AMERICA returned to North Arabian Sea; USS RANGER and USS FORRESTAL prepared for contingency operations, all in response to the murder of Lieutenant Colonel Higgins and threats to other hostages.

AIR SUPERIORITY -- THE CRUCIAL INGREDIENT

Positioned off shore, often out of sight, the aircraft carrier battle group is capable of providing the right amount of force at

the proper time because the carrier brings tactical air power to the scene. It is the embarked air wing, a self-contained package of all required aircraft types, easily tailored to suit the particular situation, that makes the carrier especially valuable to decision makers. It provides them with a credible, well-trained and ready force with which to influence events, a force which can be sustained indefinitely on station.

With 80-86 embarked aircraft, the carrier is able to exercise caution and restraint when necessary or mount a major anti-ground or anti-sea strike if called upon. In peacetime, possessing a task-tailored mix of air-to-air fighter, ground-attack, early warning, electronic counter-measures and anti-submarine aircraft, naval tactical air power provides quick response, independence, flexibility, escalation control, and continual, long-range on-station surveillance while in international waters.

THE U.S. NAVY IN 1989

The August 1989 marshalling of naval forces off Lebanon is only the most recent example of the often repeated story that, when a crisis breaks out, the first question is "Where are the carriers and when can they be on the scene?" The operation illustrates the flexibility and depth of capability provided to our national decision-makers by naval forces. Four carrier battle groups and one battleship were on call. USS CORAL SEA and USS IOWA battle groups were both on-station in the Mediterranean and ready for whatever the President deemed was the appropriate and desirable action. Meanwhile, in the Indian ocean, USS AMERICA was ordered to return to the North Arabian Sea. Enroute to California, USS RANGER was delayed and positioned for a contingency return to the North Arabian Sea; USS FORRESTAL prepared for possible contingency operations during an on-going exercise in the Caribbean.

This single operation demonstrates the ability of naval warships -- carriers, battleships, surface combatants, submarines, amphibious ships -- to move on short notice and provide a reaction force capable of responding on a wide scale. Naval forces were fully ready. Aircraft, cruise missiles, 16 inch shells from a battleship, combat ready troops, and submarine surveillance were all available. As a consequence, our decision-makers had in hand the essential tools for the development of their policies: flexibility of action, immediate availability of resources, diversity of capability, and ambiguity of intent until a decision was made. Importantly, the world and all the interested parties were aware of the marshalling of forces even while the decision process evolved. Naval forces were and are politically and strategically mobile.

In addition to these traditional missions, the Navy will play a key role in the expanding contribution by the Department of Defense in the fight against illegal drugs. Plans developed by CINCLANT AND CINCPAC involve the employment of naval forces, both active and reserve, including carrier battle groups, major amphibious ships and aircraft, operating in international waters. Their mission will be surveillance, identification and, in conjunction with law enforcement agencies and especially the United States Coast Guard, apprehension of drug traffickers.

Finally, the mobility of naval forces contributes to our ability to respond when ecological disasters occur. In the aftermath of the massive oil spill off Valdez, Alaska, the U.S. Navy provided essential logistical assistance during the cleanup effort. Amphibious ships -- for command and control and berthing of cleanup crews -- were maintained on-station for six months. Most of the oil skimmers, towboats, oil containment booms, landing craft and communications vans were provided by the Navy. Some of these same assets were recently employed to assist in the cleanup of the Huntington Beach oil spill.

This same mobility and the self-sufficient nature of naval ships make them valued sources of relief when natural disaster strikes. In September 1989, U.S. Navy ships were promptly on the scene providing electric power, fresh water and volunteer assistance at St. Croix, Puerto Rico and Charleston following Hurricane Hugo. In October 1989, naval forces again provided rescue, vital utilities, medical assistance and volunteer manpower in the aftermath of the Oakland-San Francisco Bay area earthquake.

SOME OBSERVATIONS ON RECENT NAVAL OPERATIONS

As I consider the challenges faced by the United States and by naval forces in support of our nation's goals and objectives during these last four years, several lessons and trends are noteworthy.

In the majority of contingencies naval forces were called upon to represent national interests, Western resolve, democratic principles and regional stability in areas far removed from the United States, overseas bases or traditional European locations. Moreover, many of these contingencies were not anticipated. Nonetheless, because of the forward presence of our naval forces in unstable regions we have been able to provide the President a range of policy options for virtually every contingency. This is an important consideration. It is not possible to anticipate every conceivable contingency because of the volatility throughout the world. The solution is not to create a library of contingency plans for every conceivable situation. Rather, in those regions of greatest importance to the country we should maintain forces with the widest range of military capability so that they can be immediately employed. Our forward deployed carrier battle groups and amphibious task forces provide that wide range of military capability.

Of equal significance, naval operations throughout the world have resulted in development of unprecedented coalitions of

nations with maritime interests in regions such as the Mediterranean, Western Pacific and Southwest Asia. In the Persian Gulf, thanks to United States leadership, several of our NATO allies, Saudi Arabia and Kuwait joined forces to protect maritime interests. Freedom of navigation was successfully defended when challenged by Iran.

The United States will continue to be expected to provide leadership as the principal naval power in the world. A modern, responsive, mobile, flexible and technologically advanced maritime coalition is clearly a capability that our friends and allies have found to fit the new geostrategic realities well. It is a natural and quite logical fallout of the world's increasing interdependence which is based upon the sea.

A final observation is the importance of our sea-based forces to assemble for action without depending upon bases in other nations. This inherent trait often permits the luxury of being insulated from policy vicissitudes on base and overflight rights, providing more latitude for policy development and negotiations. Naval forces help make it possible to weather shifts in political winds as well as respect the sovereign self-determination of other nations' desires without needlessly sacrificing our own vital interests. The relative autonomy of sea-going forces will continue to be an important factor in support of American and allied interests.

WHAT KIND OF NAVY DO WE NEED?

To successfully support U.S. policy, naval forces must: (1) be able to fight a war effectively, regardless of scale, (2) be able to operate jointly with our sister services and allied navies, (3) have the striking power to affect events at sea and ashore, (4) have local superiority over potential adversaries, (5) be sufficiently large in numbers and capability to permit simultaneous coverage of different crisis areas, (6) be able to respond and defend against sudden attack and (7) be able

to employ offensive electronic warfare to disrupt an opponent's effectiveness.

The ships we build today will be in the fleet for the next 30 to 40 years. Forecasting the threat environment for the year 2020 is at best an imprecise art. We can forecast, however, broad trends of that environment and build ships and aircraft such as ARLEIGH BURKE Class destroyer, the SEAWOLF Class submarine, and the A-12 all-weather attack aircraft, that are able to deal with the widest range of plausible future threats. As we look toward that future, it is clear that such a Navy must be balanced and include the following major pieces:

(1) The sea-based portion of our nation's strategic deterrent force. Measured against the criteria of ensuring our nation's deterrent flexibility and maintaining our defense options, our sea-based nuclear deterrent is the best insurance available. Our nation's dependence on this force will grow in a post-START environment. The TRIDENT missile-carrying submarine is reaching maturity at precisely the right time in our nation's history to enable us to safely weather the period of strategic and defense uncertainty that lies ahead. Providing nearly 50% of the nation's strategic warheads for only 25% of the total strategic cost, the potent and extraordinarily accurate TRIDENT/D-5 system will, for the foreseeable future, remain the most cost-effective and survivable element of the nation's strategic deterrent capability.

(2) A strong and credible capability to defeat any submarine force. The Soviets' increasingly modern, quiet and very large attack submarine force maintains the real capability to sever the umbilical cords that unite the Atlantic alliance and the industrial base of Asia with the United States. In addition, the forecast proliferation of advanced diesel submarine technology presents a significant and emerging non-Soviet global ASW threat which will require our continued commitment to ASW superiority. We must continue to place top priority on development of modern

submarines and submarine surveillance systems, as well as improved surface combatants and air ASW forces to detect, hunt and, if required, sink submarines. Detecting and killing modern, quiet submarines (nuclear or diesel) is the most difficult task in modern warfare.

(3) Carrier battle forces will remain the most useful component of our balanced Navy. Air superiority is essential to success in modern naval warfare. The availability of tactical air power and cruise missiles from surface combatants and submarines in the battlegroup will remain the most important military consideration in any form of conflict or crisis response. Tactical aircraft at sea remain the most decisive naval weapon, whether the mission is protection of our sea lanes or power projection ashore. Our Navy's ability to deploy carrier battle groups routinely with militarily useful numbers of aircraft and land attack cruise missiles is the single most important factor in its value to national decision makers, because it provides a credible means to affect events ashore. Battleship battlegroups, while not a substitute for carrier battlegroups, do provide a unique operational capability. Their 16 inch gun firepower is particularly valuable in satisfying many of the warfighting requirements presented by low intensity conflict scenarios. Similarly, submarines provide covert surveillance, intelligence collection, and insertion of special operations troops, offering a unique capability in addition to their more typical anti-surface and anti-submarine warfare missions.

(4) An amphibious assault capability that provides our Marine Corps access to virtually every area in the world in which U.S. interests can be jeopardized is another critical component of a balanced Navy. A modern amphibious capability provides the means to project land combat power from the sea in virtually all of the likely trouble spots -- which historically have been predominantly littoral nations -- around the world. Because amphibious forces are sea-based, they are readily available for

use and are unencumbered by political constraints imposed by of other nations. This broadens their value to the President as a viable contingency response force.

(5) A mine countermeasures capability in the active and reserve force that blends the quick response of airborne minesweeping forces with the staying power of surface ship minesweepers is essential. The ability to disrupt the flow of commerce with readily available low-tech, inexpensive, impersonal and easily deniable mines was a lesson of the Iran-Iraq War that has not been lost on those who would wisn to intimidate, stop or otherwise interfere with the maritime flow of goods and commodities.

(6) To complete the capabilities that represent a balanced Navy, the Combat Logistics Force is essential. It is the ability to resupply our forces at sea that separates a coastal Navy from a truly "blue water" force that can remain at sea without dependence on forward bases. Logistics ships provide the autonomy from fixed bases that will be increasingly important as our overseas base structure continues to erode.

Taken together, these six capabilities (portions of which can be in the reserve forces) and the naval contribution to national special operations forces -- the SEALS -- represent elements that constitute a balanced navy essential to the maintenance of our role, position and obligations throughout the world.

Increasingly during this decade, and entering into the next century, all of these balanced forces will depend upon space-based navigation, communications and surveillance systems to carry out the full range of assigned national tasking. Because of its importance to naval operations, I have designated Space and Electronic Combat as a discrete warfare area and associated naval doctrine is being developed.

Finally, when considering what kind of maritime capability the country needs, we must address strategic sealift capability which complements our Merchant Marine to deliver warfighting equipment and combat-sustaining resupply of our Army, Air Force and Marine Units to the region of conflict in adequate time and sufficient amount. As a great power, the United States will always need to be able to project military forces overseas. Changes in Europe will increase the value of sealift. As warning time increases, as CFE negotiations reap anticipated results and as intelligence resources are enhanced, the ability to reinforce Europe from the continental United States will play a larger role in deterrence.

WHAT SIZE NAVY DO WE NEED FOR THE 1990s?

In today's environment, the size of the peacetime Navy is dictated by three criteria:

First, the need to maintain a credible naval deterrent so that no matter how perestroika finally plays out, the United States does not find itself disadvantaged by a change in regime or philosophy in the Soviet Union. This is particularly true in our ASW force structure, where a sudden shift could find a less benign Soviet Union ready to use their large and capable submarine force. Naval forces can not be easily created. You can not quickly design and construct warships; depending on complexity, they take anywhere from 5 to 8 years to build. When the President needs naval forces to respond, they must be at sea, or nearly so. They can not be resting on the building ways or in the designer's eye.

Second, a Navy that can meet peacetime national requirements for forward overseas presence, preserve regional stability and promptly respond to unanticipated or emergent crises. Based on our country's post-World War II history and the American public's desires to maintain the United States as a world power, it is obvious and certain that the President will continue to depend

upon ready aircraft carrier battle groups and Marine Corps amphibious forces, both to support our foreign policy initiatives and to defend the rights and lives of Americans abroad. As the country's premier deployable arm, maritime forces must be broadly capable and available in sufficient numbers to ensure success. National leadership must have in hand forces that permit them to explore the widest range of options in addressing threats to the peace of today's world.

Third, the peacetime Navy must be sized so that our seagoing sailors can be afforded a tolerable quality of life. This final criterion is very important because it directly affects our Navy's single most important asset -- our extremely bright, dedicated, patriotic and incredibly hard working sailors. It means having enough ships and submarines to ensure a reasonable balance between the demands of overseas deployments and operations in homewaters.

This point is often not well understood. Firm guidelines for the number of days underway (OPTEMPO), the number of days in homeport during nondeployed periods (PERSTEMPO), the length of time between overseas deployments (turnaround time) and the actual length of overseas deployment (6 months) have been established precisely so that we don't drive our sailors out of the Navy because the burden of constant family separation becomes intolerable. As it stands, on average, seagoing sailors spend six of every 18-20 months forward deployed and another several months operating at sea in homewaters conducting training exercises. In global war, when the entire Navy and country would be mobilized, long periods of separation are expected and tolerated. In peacetime, however, many sailors will simply not continue to endure unreasonable periods away from their families and friends in the United States.

This assertion is buttressed by recent history. Just ten years ago during the Iranian hostage crisis, national requirements demanded a forward deployed carrier battlegroup

presence of four to five carriers. Because there were too few deployable carriers and overseas requirements were firm, the only solution was to lengthen deployments, eventually reaching nine and then ten months. Excessive time away from their families, combined with low pay, caused sailors to vote with their feet. Valuable, experienced petty officers left the service in droves. Predictably, this hemorrhage of skilled sailors had a direct and negative impact on readiness. This unfortunate situation took about four years to turn around.

By 1986 we had rectified the damage brought about by having too few ships and too few sailors too poorly supported to meet national requirements. Today, we have recruited, trained and retained a force of qualified men and women, replacing those who left a decade ago. We are not complacent, however. We know it could happen again, particularly since we have seen a steady decline in funding so that today we have only a thin margin of sufficiency in terms of ships and resources.

What is different today is that we have sufficient carrier battlegroups to satisfy today's overseas deployments and firm overseas deployment guidelines, so we are not forced to compensate for force structure shortfalls by extending our overseas deployments.

In general the Navy we have in hand today is the force we need to maintain regional stability in areas that are important to the United States, to remain a credible deterrent, to participate effectively in the fight against illegal drugs and respond to national requirements that exist day-in and day-out. The active deployable Navy should not be permitted to dwindle beyond our planned retirements and replacement objectives.

Today's Navy is of sufficient size and capability. We remain a credible deterrent force and can satisfy peacetime requirements. In order to maintain this capability, we must continue to modernize the fleet incrementally, replacing older

carriers, surface combatants, amphibious ships, aircrafts, and submarines with the newer forces that will be the mainstay of our capability well into the next century.

THE NAVAL RESERVE FORCE -- THE PROPER BALANCE

We must continue to provide sufficient and prudent funding for our total force concept. Over recent years, we have increased the size of our Selected Reserve by nearly 100 percent, to nearly 150,000 men and women, serving in front-line ships and aircraft, including ASW frigates and P-3 aircraft. The Naval Reserve force is substantial. Perhaps more than ever in history it will be necessary for us to assess carefully the proper mix of active and reserve forces to ensure that we have the most economical and effective force needed to meet our mission requirements.

There are some people who believe that we can make significant inroads in reducing our budget by transferring a large number of personnel, ships and aircraft into the reserve force. While it is true that some savings are realized because of reduced manning levels and operating expenses, there are added costs to increasing numbers of personnel in the reserves and associated transportation costs and logistical difficulties in getting those personnel to their units. There is also the cost of constant turnovers, since reserves can only be used for a very short period of time, rarely covering the time required for an overseas or deployed operation. It is a fact that Naval Reserve Force ships are only 10% less expensive than fully active, immediately deployable, fully maintained front-line ships. Most importantly, there is a cost to be paid in the Navy's ability to: (1) meet global commitments without stretching remaining active duty forces so that the level of risk is unacceptable and (2) respond to contingency situations without violating established limitations on length of deployments, our Navy OPTEMPO and PERSTEMPO goals. Striking the right balance between these costs and their effects upon our forces has been the key factor in developing the quality total force we have today.

SAFETY

In 1989 there was a great deal of public commentary on the issue of safety. Going to sea is inherently hazardous. Latent danger is present in every aspect, during each minute, of our professional lives at sea. Because of that, safety is a paramount and constant concern for all of us in the sea services. While no accident is inevitable, statistically we know that some will happen. Each accident, injury and loss of life is taken very seriously by everyone in the Navy. Because of that, our emphasis on safety is unrelenting. In this decade we have demonstrated a continual improvement in safety. Are we satisfied? No. We continue to strive for perfection. It is worth pointing out that:

o We have set new records for aviation safety in the last two years. The number of major aviation accidents this year is nearly three times lower than it was in 1980 and 30 times lower than when I was a junior officer.

o Operations and training related major accidents have declined in each of the past five years. In FY 1984 the Navy had 125 major accidents. The number in FY 1989 was 66.

o The aircraft carrier LEXINGTON, on which a student pilot crashed in 1989, had not had a single fatality in the previous sixteen years. This is remarkable considering that this is the Navy's training carrier and every Navy and Marine Corps pilot makes his first at-sea carrier landing on that ship.

o In September 1989, we completed a four month exercise in the Pacific in conjunction with many of our allies, known as PACEX 89, which was one of the most intense operations in many years. The exercise involved over 100 ships and hundreds of airplanes and operations were conducted in every type of weather. There were no major accidents.

o Since 1955, when the first nuclear powered ship went to sea, the United States Navy has been continuously operating nuclear powered ships without a single major nuclear accident. This is a safety record unparalleled by any other nation and one about which we are neither complacent nor relenting.

Our goal continues to be to make our Navy as safe as possible. That is done through many avenues, including proper technical training, safe and modern equipment, sufficient manning, realistic operational tempo, constant education and awareness programs and sound leadership practices. Ultimately, however, good safety depends on safety conscious leadership. I can state with great confidence that leadership, at every level, is aimed at making the 1990s the safest decade yet.

ENVIRONMENTAL PROTECTION

The goals of national defense and environmental protection are compatible. The Navy is a steward for vast amounts of natural resources. The protection of these natural resources at our installations, along with the protection of our nation's air and water, are in integral part of our daily lives at sea and ashore. Although we support the concept of state and local regulation, we see a need for consistent national standards for our ships which must operate in various state waters. This past year we have continued aggressive efforts to clean up past hazardous waste sites. We initiated a total quality management approach for hazardous material requiring comprehensive evaluation of material acquisition, storage, use, recycling and disposal to minimize hazardous waste. The Navy has been a leader in federal facility environmental protection and we must continue to do so as we face the challenges of the next decade. I am committed to integrating the environmental ethic in our organization from top to bottom and ensuring that we dedicate the resources necessary for environmental compliance.

ARMS CONTROL

Over the past year, it has been asserted by a number of commentators that it is because of stonewalling on the part of the Navy that the United States has not enthusiastically embraced Soviet calls for naval arms control. It is flattering to be credited with such influence; it is also naive and just plain wrong. The reason naval arms control is not on the agenda is that when national policy makers objectively examine the issue, they find that the variety of naval arms control proposals floated by the Soviets are simply not in our national interest. We have nothing to gain and much to lose. They also find that, except for START, which includes SLBMs in the negotiations, the charters for all of the ongoing negotiations specifically exclude naval measures.

When we talk about naval arms control it is important to understand that there are, in reality, many different aspects of this overly broad term. The most prominent include:

The START negotiations, which include naval forces. From the outset our SSBN force has been included in these negotiations to reduce strategic offensive nuclear weapons. I fully support the objectives of START.

Second, our nuclear tipped TOMAHAWK sea-launched cruise missiles (TLAM-N), most commonly referred to as SLCMs, are the subject of considerable debate. These are tactical weapons that have specifically been excluded from the START negotiations. In principle, I have no objection to imposing a limit on the number of nuclear SLCMs. We must, however, be prudent with our management of this important capability. While satisfactory verification is one of my major concerns, an equally important consideration is the role that SLCMs could play in maintaining theater level deterrence.

Third, the Soviet Union has persistently advocated measures that would restrict where U.S. naval ships, operating on the high seas, could go. The basic Soviet approach is to prohibit naval forces from sailing in international waters in certain parts of the globe by creating special keep-out zones. Variously known as "nuclear free zones," "zones of peace," "ASW free zones," "stand-off zones," and "security or safe zones," these proposals have one thing in common -- they seek to put limits, in international waters, on what the U.S. and western navies may do and where they may do it.

Under the guise of arms control, these constraints are known as "confidence and security building measures" or CSBMs. The concept of CSBMs stems from concerns related to land warfare. On land the worry is that national frontiers, limited air space or terrain features such as mountains, wooded areas, tunnels, etc. prohibit observation of large troop movements. CSBMs are intended to overcome natural or man-made obstacles and make movements or large bodies or troops more open or transparent.

The desire for transparency is driven by fear of surprise invasion. Countries with neighbors having large standing armies and a history of conflict, are sensitive to the subterfuge of using exercises as an excuse to amass troops who then, instead of exercising, lunge across the frontier in a surprise invasion. The Soviets, surprised in June 1941 by Hitler, are understandably nervous about this issue, as are other European countries who have been similarly surprised.

A significant problem arises when one takes legitimate security concerns about openness and transparency on land and attempts to apply them at sea. It does not work. Unlike sovereign territory on land, the international waters of the world are the common holdings of all nations. As the term "international waters" implies, the high seas are available for all to use freely. It is the ships that ply the high seas that are sovereign territory, not the seas themselves.

In fact, if the objectives of CSBMs are openness and transparency, then the concept of freedom of the seas is the ultimate naval CSBM, because it guarantees the right of a ship or aircraft from any nation to operate freely in close proximity, with due regard to safety, to naval exercises in order to observe and monitor the progress of these exercises. Rather than building confidence, many of the measures proposed by the Soviets, by constraining freedom of the seas, will have the opposite effect.

Today, there already exist several means to ascertain the difference between large scale naval exercises and a major maritime offensive operation.

o First, in Europe, the Stockholm Agreement of 1986 requires notification for ground, amphibious, or airborne exercises with troop/vehicle participation above a certain level, and observation of exercises with a higher level of troop participation. We support and fully participate in this agreement.

o Second, the announcement of military exercises and associated ship movements in our free press gives advanced information on the commencement and cessation of virtually every major naval exercise.

o Third, the scale of a major maritime war operation dwarfs that of any peacetime exercise and would be immediately discernable to any nation with modern surveillance capabilities, particularly the Soviet Union. From the viewpoint of transparency, when one considers that in June 1944 it took over 5,000 ships, 5 amphibious assault divisions of troops and, on the first day alone, 11,000 aircraft sorties to invade the continent of Europe, it is obvious that no country or alliance has the military capability to invade the Soviet Union from the sea.

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o Fourth, a modern space surveillance capability gives the Soviets the ability to monitor ongoing exercises. For years the Soviets have easily monitored our exercises with their own ships and aircraft, yet they persist in trying to limit our ability to operate or exercise in proximity to our overseas friends, allies or even our state of Alaska.

Throughout the history of the United States we have been willing to fight, and indeed have gone to war, to preserve the principle of freedom of the seas. It would be a travesty if we were to compromise on a fundamental national and democratic principle simply to satisfy a Soviet compulsion for predictability or because we feel compelled to respond to their strategically specious assertion that they feel "threatened" by a United States Navy that is growing smaller.

PRIORITIES

Amid all the political instability and strategic uncertainty we see in the world today and the ever changing political priorities in the United States, the Navy has stood fast with the same priorities throughout the 1980s -- a result of constancy of purpose and diversity and adaptability of capability.

As we look toward the future and the transition to the Navy of the 1990s, our commitment is to sail the world's most capable Navy. We will be a smaller Navy, but improved in capability through the retirement of older ships and the construction of new, necessarily more capable ships. The emphasis for the Navy of the future will be continued quality and readiness of our people, proper warfighting balance of our forces and capability to meet tomorrow's threat with the assistance of high leverage technology. My priorities remain:

First, People: Sailors and Their Families. Today, the nearly 600,000 active duty and 150,000 reserve men and women in Navy uniform, and the 300,000 civilians who support them, are very

good. They are bright, patriotic and expertly trained. In 1989 we enjoyed the highest retention and reenlistment rates in the past five years. Such success does not come without effort. It can not be sustained by broken promises, a widening pay comparability gap (currently 10.9%) between civilian and military wages, or erosion of benefits. Unhappiness with pay has moved up to the number two "dissatisfier" with Navy life since 1988 because of the increasing pay gap. We need to keep faith by maintaining continual and unrelenting focus on adequate pay and bonuses, staying true to established standards for time away from home and time out of homeport, following through with our very substantial efforts at rejuvenating the Navy medical system, and keeping our training programs vigorous and attractive.

We have developed a manpower strategy for the 1990s. If the Navy is to become smaller we have an opportunity and obligation to shape the force in order to retain high quality personnel, increase experience levels, gain better sea/shore rotation for our people, improve training levels, while reducing overall manpower costs. This must be accomplished with a strong commitment to taking care of the people we have in the Navy, and who wish to stay, even as total strength decreases.

As the budget process progresses, we are focusing on basic goals during each step of that process, which include but are not limited to:

o Sufficient strength, in correct grades, must be available to man operational forces at levels no less than approved for FY-89.

o Sufficient strength, in correct grades, must be available to accomplish necessary work ashore and provide for improvement in our sea/shore rotation for career enlisted personnel. My goal is to provide our sailors with a minimum 3:3 rotation.

o The career content of the force should increase in order to take advantage of quality personnel now on board, reduce training costs and increase readiness through efficiency gained from increased experience.

o Key quality of life programs assume even greater importance. We must continue to vigorously support those programs which are of concern to our people: adequate care for their children, access to suitable housing, protection of their right to freedom of worship. We have an opportunity to better match these programs to force size if we resist the temptation to reduce these programs by the same percentages as force reductions. Quality of life and high retention that will result are essential elements of maintenance of a better trained and experienced force.

o Officer strengths in relation to size of total force should increase as force size declines. We must correct the serious shortages we have endured during the growth years. This is our opportunity to provide more education, better participation in key joint activities and correct shortages in medical manning. We may, as a result, require DOPMA control grade relief during transition periods. Along this same line, we need to be careful as we develop more joint expertise within our officer corps. Every change has an effect, particularly in the delicate balance between sea/shore rotation and the continuous requirements for technical education in an ever-increasingly technological world. While we have been wholehearted in meeting both the spirit and letter of the law, we continue to experience problems meeting TITLE IV requirements in the nuclear officer community, including aviators who are enroute to command of nuclear aircraft carriers. The stringent training and education requirements of the nuclear propulsion program place significant time demands on an officer's career. We need to maintain a careful balance between technical and joint professional education so that operational proficiency does not suffer. We need to accomplish this while maintaining realistic demands on our officer corps.

An additional comment is appropriate with regard to our support of Navy retirees. As long-standing members of the Navy family, our retirees deserve and will receive the support of the Navy in protecting benefits and entitlements they have earned through their years of dedicated service.

Second, Maintaining an Effective and Balanced Warfighting Capability. Earlier in this statement I described the components that constituted a balanced Navy -- strategic forces, ASW forces, carrier battleforces, amphibious forces, mine countermeasures, combat logistics forces and special operations capability (SEALS). In order to maintain maritime superiority by sailing the world's most capable Navy, there must be balance among these forces as well as balance among warfare areas.

Both force structure balance and warfighting capability balance are essential, because that is how we can simultaneously: (1) counter any threat in case of global war and (2) ensure that low intensity conflict requirements are met. In the first instance, the global war case, anti-submarine warfare remains my top warfighting priority. Admittedly, today the prospect of a major ASW campaign in the North Atlantic is remote. We can not become complacent, however. The ASW forces needed to prevail in such a campaign can not be created over night. It is essential that we maintain today's qualitative edge in order to compensate for numerical inferiority. Furthermore, increasingly ASW is no longer an area that can be neatly limited simply to East-West competition. I am very concerned about the technical advances being made in diesel submarine technology and the availability of that technology. Diesel submarines available for purchase today will achieve significant endurance gains through new air-independent technology which is being marketed around the globe.

In the case of low intensity conflict (LIC), contingency response will continue to be our frequently assigned mission. We recognize that all associated LIC warfighting requirements are

not necessarily a subset of global war. LIC does make special demands. The likely operating circumstances of LIC require that continued priority be afforded to maintenance of a timely and accurate tactical picture and to possession of effective and quick reaction combat systems, improved target recognition ability and in integrated hard kill/softkill (decoys and electronic warfare) capability. Denial of opponents' surveillance, communications and targeting systems will be crucial and, with effective electronic warfare capabilities, offer national leadership increased options.

Ensuring the Future -- the Capability to Meet Tomorrow's Threat. The United States must remain in the forefront of military application of emerging technology. The global technical revolution and the remarkable rapidity with which weapons technology proliferates means that we must ensure that the Navy is properly positioned to take advantage of any relevant technical breakthroughs -- such as superconductivity or neural networks. As it has since World War II, our naval warfighting effectiveness is based on technical superiority. It is the sine qua non to future security and capability. In times of funding reductions, when our military and naval forces will become smaller, the technology base can not be neglected. As I said last year, technology is the seed corn of our future.

The marriage of leading edge technology and practical warfighting applications associated with future naval weapons systems -- the Arleigh Burke destroyer, the Seawolf class attack submarine and the A-12 all-weather attack aircraft -- is essential to the superiority of a smaller Navy. These technically advanced systems will be the mainstay of our capability well into the next century. These are linchpin weapons systems, specifically designed to be capable against the full range of possible threats -- from the Soviets or Soviet supplied countries to other increasingly sophisticated and well armed emerging nations. They represent a major generational leap

into the future that will assure that the U.S. Navy can maintain its utility to the country in coming decades.

In this decade of uncertainty and transition, surveillance and intelligence will be increasingly valued at all levels of the chain of command. To ensure our continued superiority in command and control, my goal is to be prepared to enter the 21st Century so that we are able to conduct prompt and sustained combat operations at sea, with a survivable, combat-ready space and electronic combat battle management system capable of satisfying the needs of maritime forces across the spectrum of conflict.

CONCLUSION

Since 1950 the focus of national strategy has been the prevention of war in Europe with the Soviet Union. That strategy has been successful. Even in the face of the instability created by the dramatic changes in Eastern Europe, the prospect of a European war between the superpowers no longer seems very credible. As a result, in the 1990s, our primary defense concerns will shift away from a sharply continental focus to more broadly encompass Europe, the Pacific, Middle East, Caribbean Basin and Southwest Asia. An aspect of this is in what way and to what degree the American public wants the United States to continue its global leadership.

The major change that this strategic outlook implies is a reduction in the size of overseas forces and support structure concentrated on the European central front. <u>The requirement for globally deployed naval forces has not been reduced</u>. In fact, one could argue that the value these forces provide in flexibility, instant mobility and deployability in response to world-wide crisis has increased in importance.

The fact is that the United States is an island nation with two of our fifty states separated from the mainland by thousands of miles of ocean. The vast majority of the trade that supports

our quality of life is with nations across the great expanse of the Atlantic and Pacific Oceans. We are critically dependent on this trade for economic survival; globally deployed naval forces that ensure freedom of the seas are essential to this equation. The realities of the changing world situation dictate that our limited resources be distributed in a manner that recognizes the changing strategic environment.

The Department of Defense exists to execute our nation's strategy. To do that effectively in an environment of declining resources, we must maintain those forces best able to execute that strategy. The attributes naval forces bring to the table are: (1) maritime control to ensure freedom of the seas, (2) tactical air power based at sea, relatively free from overseas basing requirements, (3) flexibility, (4) mobility, (5) prompt response, and (6) staying power.

The United States Navy has proven its ability to complement and fully support our national goals, whether in peacetime or wartime. In a war, control of the seas does not guarantee victory, but failure to control the seas certainly guarantees defeat. Similarly, in crises or low-intensity conflict, naval forces alone may not guarantee resolution in favor of the United States, but they do guarantee that national decision makers will have a full range of options to influence events and apply U.S. power to satisfactorily resolve crises.

Our democracy, our freedom, and our economic prosperity are worth protecting. The role that sea forces will be called upon to perform in ensuring national security by limiting crisis, controlling escalation or terminating conflict will increase, rather than diminish, in the 1990s and beyond. We need to ensure that the Navy of our future is of sufficient size, quality and capability to carry out this role.

APPENDIX

MAINTAINING A BALANCE

THE FY 1991 NAVY BUDGET

INTRODUCTION

The FY 91 Navy Budget enables the United States to maintain strategic deterrence, contribute to the defense of Europe, sustain a forward presence in the Pacific and ensure freedom of passage in international waterways. This year's budget also reflects the continued decline in defense appropriations since 1985.

Maritime superiority is a critical ingredient in U.S. national security and is possible only through the maintenance of mobile, highly ready, and well-equipped forces. This budget seeks a careful balance among a variety of forces to ensure power projection capabilities that are forward deployed, flexible, and able to fulfil a variety of regional roles.

The U.S. Navy's vital contribution to national security is routinely acknowledged and employed by our national leadership. The U.S. Navy provides the most secure leg of the strategic triad and the most stealthy weapon -- the nuclear submarine. Naval forces also assure the security of the sea lines of communication to Europe and the wherewithal to conduct maritime campaigns on the flanks of Europe, if necessary. They ensure access to the Pacific Rim, South America, and Southwest Asia while at the same

time responding to concurrent crises. They have had a critical impact on maintaining regional stability.

Most importantly, naval forces are expert and practiced in the role of crisis response and low intensity conflict. Responding to crises is a traditional naval mission -- one that dates back two centuries to the time of the Barbary Pirates.

Aside from the demonstrated expertise and readiness of naval forces, there are a number of other reasons why our national policymakers are predisposed toward using naval forces in times of crisis. For the most part, traditional areas of crises have been particularly accessible from the sea. Naval forces can provide air superiority, assault troops, and force projection capability worldwide without the need for base or overflight rights. Once deployed to an area, these forces can remain on the scene indefinitely or can disengage promptly and unobtrusively when the situation dictates.

The Navy of the future must be able to support the nation's national security posture in a changing world. In addition to the sea-based portion of our national deterrent force represented by the Trident submarine force, we must also have strong and credible ASW forces to guarantee protection of the SLOCs, deter the Soviets, and prevail against the rapidly growing Third World submarine threat. We need surface battle forces, centered on tactical air power at sea and AEGIS anti-air capable surface warships all armed with sea-based land attack cruise missiles in order to influence events ashore. The amphibious forces needed to project land combat power from the sea and the logistics force essential to maintaining forces on the scene must be available in sufficient numbers to support U.S. goals. The growing Third World mine threat requires that we maintain a mix of long endurance mine countermeasure ships and quick reaction

minesweeping helos. The Navy SEALs represent the contribution of naval forces to the special operation force that are increasingly called upon in low intensity conflicts. Finally, the Navy must be ready to support national strategic sealift to return the Army to Europe in the event of crises in that rapidly changing region.

The Navy/Marine Corps contribution to the nation's security is an everyday activity, a 24-hour day job. Today Navy ships and aircraft and our men and women are forward deployed around the globe, in the Eastern Mediterranean, the Persian Gulf, the Western Pacific, the Caribbean, on-station to do the nation's bidding. The forces and capabilities requested in this year's budget are necessary to sustain this presence and maintain maritime superiority.

FORCE STRUCTURE

Force structure includes the cost of building new ships, procuring aircraft and converting or reactivating older ships. It is our investment in the future. This budget request represents the results of our efforts to respond to future national requirements while taking into account resource constraints in a changing world.

The capabilities and characteristics required by the United States Navy to conduct its mission in support of the national military strategy are translated through a process of analysis and judgment into the force structure we have and are recommending. The Navy's warfare tasks must be carried out against opposition whose capabilities are increasingly and disconcertingly close to "cutting edge" technology. The proliferation of very capable submarines in the Third World means

that ASW is no longer a problem that is limited to dealing with the Soviet submarine force. We can no longer exclude ASW considerations when we discuss the balance of ship, submarine and aircraft types that are necessary to prevail during crises and low intensity conflict.

In fact, antisubmarine warfare continues to remain my primary warfighting concern. This is a direct reflection of the global proliferation of submarine capability and antisubmarine warfare technology that I have just mentioned, and the fact that despite other changes in the Soviet Union, the Soviet submarine force is being modernized at an undiminished pace. To maintain our warfighting and surveillance edge, we will need a variety of modern, advanced ASW capabilities, in particular our finest ASW unit, the new SSN-21 SEAWOLF class attack submarine.

Our shortage of capable antiair (AAW) combatants is a matter of continued concern. The budget-driven decommissioning of our older guided missile destroyers (earlier than the end of their useful life) has highlighted that shortfall, and places a premium on the need for a steady introduction of their replacement -- the DDG-51. The proliferation of sophisticated high-performance aircraft and cruise missiles is the reason that the continued construction of warships with an AEGIS capability is my top surface combatant priority. The soon-to be introduced ARLEIGH BURKE (DDG-51) and the proven AEGIS (CG-47) class warships will form the backbone of the future combatant fleet for the foreseeable future.

Ship Procurement (SCN)

The FY 91 Budget provides for a Navy of 546 ships, 25 less than anticipated in FY 90. We will decommission 23 ships. These decommissionings will not be matched quantitatively by new

construction. The Shipbuilding and Conversion, Navy appropriation request of $ 11,195.2M in FY 91 will fund 15 new construction ships. These ships include two SSN-21 (SEAWOLF) class attack submarines, one TRIDENT class ballistic submarine, five DDG-51 (ARLEIGH BURKE) class AEGIS destroyers, one LHD (amphibious assault ship), one LSD (CV) (Landing Ship Dock, Cargo Variant), three MHCs (coastal minehunters), one AOE (fast combat support ship) and one TAGS (ocean surveillance ship). Funding for twelve LCAC (Landing Craft Air Cushion) craft is also included.

SHIP CONSTRUCTION PROGRAM

NEW CONSTRUCTION	FY 1990	FY 1991
Trident (Ballistic Missile Submarine)	1	1
SSN-688	1	-
SSN-21 (Attack Submarine)	-	2
DDG-51 (Aegis Destroyer)	5	5
LHD-1 (Amphibious Ship)	-	1
LSD-41 (Cargo Variant)	1	1
MCM	3	-
MHC-51 (Coastal Minehunter)	2	3
TAO	-	-
TAGOS	1	-
AE	-	-
AOE	1	1
Oceanographic Research	3	1
AGOS	-	-
ARS	-	-
AR	-	-
LCAC (Landing Craft Air Cushion)	(12)	(12)
Sof Landing Craft	(9)	-
USCG Icebreaker	1	-
USCG Patrol Boats	(12)	-
Subtotal	19	15
Conversion		
CV Slep	1	-
Enterprise Refueling/Mod	1	-
AO Jumbo	1	-
Moored Training Ship	(1)	-
Subtotal	3	-
TOTAL: SHIPS	22	15

The Submarine Force

The nuclear submarine force has been executing and perfecting stealth for over 30 years. Our current attack submarine force, led by SSN-688 (LOS ANGELES) class submarines, maintains an unchallenged worldwide presence. This force is capable of delivering a wide variety of weapons --the MK-48 and MK-48 Advanced Capability (ADCAP) torpedoes, HARPOON and TOMAHAWK anti-ship missiles, TOMAHAWK land attack cruise missiles, and mines.

The SSN-21 (SEAWOLF) class submarine is designed to counter the rapidly increasing capabilities of the Soviet submarine force projected for the 1990s and beyond and will be a revolutionary improvement in submarine warfighting capability. In contrast to the four submarines delivered to our Navy in 1989, the Soviets completed nine submarines, five nuclear and four diesel, slightly above average for the 1980s. Production of the AKULA SSN, SIERRA SSN, VICTOR III SSN, OSCAR II SSGN and DELTA IV SSBN continues. Any impact of defense cuts and economic restructuring on the Soviet submarine construction programs has not yet been felt. Minor delays in production which might signal a slowdown are offset by continued building in shipyards publicly designated for transition to civilian work. We believe the current submarine program will keep major Soviet shipyards employed through 1993 at historic construction rates.

Counterposed to this substantial Soviet threat is the SEAWOLF SSN, the world's foremost submarine: quiet, fast, and outfitted with advanced sensors. The SEAWOLF will represent the most formidable ASW platform in the world and will provide a technology hedge against the increasingly sophisticated and always difficult area of anti-submarine warfare.

Our ballistic missile submarine force will continue modernization over the next decade, the result of long-standing plans to build a strategic weapons system composed of large, very quiet submarines armed with long-range weapons -- TRIDENT submarines armed with TRIDENT II D-5 missiles. This submarine entered the force in 1989 with the commissioning of USS TENNESSEE.

The expanded capabilities of TRIDENT will challenge a number of assumptions that have conditioned thinking about ballistic missile submarines in the past. They also will further exemplify the invulnerability and enhanced communications reliability of these submarines in the context of their already enormous contribution to the triad. This will almost certainly produce a dramatic expansion of the role played by the SSBN force. While operational tests are incomplete, it is clear that the missile's accuracy will be on the order of twice that of the currently deployed Trident I. Also, when armed with the larger of its possible warheads, Trident II will have the capability to destroy hard targets, earlier thought to be vulnerable only to high-yield bombs or to the most modern U.S. ICBM.

The Aircraft Carrier Force

Carrier Battle Groups represent the single most important aspect of our sea control and power projection capability. We will continue to need NIMITZ-class aircraft carriers and their multi-mission air wings well into the next century to establish and sustain the tactical air superiority at sea critical to power projection, sea control and protection of the sea lines of communication. As our overseas base structure shrinks, it is the mobile base -- the aircraft carrier -- that will allow us to bring tactical aircraft to the scene of crises and stay there until needed or until diplomacy solves the situation.

A well-structured program of new construction must be set in place to offset the decommissioning of the older units. The Navy's experience with the multi-ship acquisition of USS ABRAHAM LINCOLN (CVN-72), GEORGE WASHINGTON (CVN-73), STENNIS (CVN 74), and UNITED STATES (CVN-75) demonstrates that it is most efficient and economical to procure two carriers under one contract.

There are no conversion ships included in the FY 91 request. USS KITTY HAWK (CV 63) is now being modernized as part of the SLEP. USS CONSTELLATION (CV 64) is scheduled to commence SLEP in July 1990. Carriers which have completed their SLEP, USS SARATOGA (CV 60), USS FORRESTAL (CV 59) and USS INDEPENDENCE (CV 62), continue to operate reliably.

The Surface Combatant Force

Over the past ten years, the surface Navy has undergone a revolution at sea. The advent of AEGIS, SQQ-89 ASW system, LAMPS MK III helicopters, TOMAHAWK and VLS has altered the art of naval warfare and provides a solid foundation for the Navy of the 21st century. The capabilities of these multi-dimensional systems, and the flexibility they exhibit in adapting to changing requirements are the hallmarks of this new generation of ships and weapons. Ships are valued because of the warfighting capability of the systems they have installed, not because of their class. Versatility, capability against the toughest threats, efficiency and affordability are what makes a modern surface combatant a sound investment. The traditional categories of "frigate," "destroyer" and "cruiser" have become a less important yardstick for determining capability.

As a result, our at-sea antiair warfare capability will continue to revolve around the AEGIS force. The CG-47 (TICONDEROGA) class of AEGIS guided-missile cruisers is comprised of 27 ships fifteen of which have been commissioned to date. They have operated with

enormous success in all environments and in every ocean in a variety of employments. The last five ships of the class were authorized in FY 88 and the final ship is scheduled for delivery in 1994.

The DDG-51 (ARLEIGH BURKE) is the second class of AEGIS warships authorized by Congress and currently under construction. The mission of the AEGIS guided-missile destroyer is the simultaneous execution of naval warfare in its four dimensions: antiair, strike, antisubmarine and antisurface. AEGIS equipped DDG-51 class ships will complement the CG-47 class cruiser in Carrier Battle Group operations. Our budget submission this year provides funding for the five FY 91 ships in a multi-year procurement strategy approved by Congress. Five ships per year maintains the dual ship builder industrial base necessary for a competitive environment, and is the most efficient way to redress our AAW shortfall.

The Amphibious Force

The FY 91 budget also reflects our continuing plan to offset amphibious ship block obsolescence. The follow-on units of the WASP-class (LHD 1) and the cargo variant WHIDBEY ISLAND-class (LSD 41) represent the modern amphibious lift required for the Navy-Marine Corps team to provide flexible and mobile forces for crisis response. The continued investment in 12 additional Landing Craft Air Cushion (LCAC) vehicles represents a marked improvement in our ability to rapidly move Marines ashore in support of national objectives.

The Mine Warfare Force

The ambitious plan to modernize our obsolescent minesweeper force continues this year with the request for three MHC-51 minehunters. The abundance of mines in the Third World reinforces the need for a modern mine countermeasure force capable of meeting the full spectrum of mine threats. The value of our surface mine countermeasures force

was clearly seen in the Persian Gulf where the United States mobilized and deployed minesweepers in order to protect shipping and guarantee freedom of navigation.

While the CH-53 Super Stallion minesweeping helicopter plays an important role in our quick reaction and shallow water countermeasures capability, minesweepers and minehunters are the only way to sustain a mine countermeasures effort -- as in the Persian Gulf -- over a long period of time. These ships are also necessary to detect and sweep modern, deep-moored mines.

The Combat Logistics Force

The FY 91 budget request also includes funds for the third of four AOE-6 Fast Combat Support Ships. An increase of $27.9 million to the AOE program is proposed as a result of prior year shipbuilding execution experience. The inherent mobility and flexibility of naval forces is defined by their ability to operate independently of shore support for extended periods of time. This capability rests on the ability of "floating logistic bases" to replenish underway, at sea, vital supplies of weapons, fuel, and food to carrier battle forces on station throughout the world. These ships will assume even greater importance to deployed naval forces if the access to secure overseas bases decreases in the future.

The Strategic Sealift Force

Strategic sealift is part of the mobility triad (sealift, airlift and prepositioning) and is necessary for both our national economy and national defense. Sealift is a national issue requiring national solutions. The adoption of the National Sealift Policy last year is important to maintaining the country's forward defense strategy. Changes in our posture overseas may cause some shifts in sealift requirements. Until the U.S. force structure and disposition of

forces withdrawn are settled, attempting to determine new strategic sealift requirements is not practical. It would be premature to modify our strategic sealift approach until we determine precisely what our new goals will be.

We have a significant capability today. The eight fast sealift ships we own will lift an entire armored or mechanized division's equipment. We will continue to assess how this capability, along with the very successful and flexible maritime prepositioning ship (MPS) and afloat prepositioned force (APF) programs will meet current and future requirements. It is clear, however, that America's historic reliance on oceanic trade will continue and will likely increase, even while the inventory of U.S. flag merchant ships decreases from the 893 ships available in 1970 to a forecasted force of only 200 ships by the year 2000.

Aircraft Procurement (APN)

The Aircraft Procurement, Navy appropriation request of $ 9,838.6M in FY 91 will fund the procurement of 163 aircraft and the remanufacture of an additional 15. Also included in the budget request are funds for modification of existing aircraft and procurement of the spare parts and support equipment necessary to effectively use these aircraft. This request provides the best distribution of available funding to provide a total warfighting aviation mix. The current force level requirements include 13 active and two reserve carrier air wings, 24 active and 13 reserve ASW patrol squadrons, and three active and one reserve Marine air wing. We find these numbers adequate to meet the challenges of the 1990s.

AIRCRAFT PROCUREMENT PLAN

AIRCRAFT	FY 1990	FY 1991
A-12	*	*
EA-6B	-	3
AV-8B Harrier (Attack)	24	24
F-14D/D(R)	24***	12**
F/A-18 Hornet (Fighter)	66	66
CH/MH-53E Sea Stallion (Minehunting)	10	23
V-22 Osprey	-	-
AH-1W Sea Cobra	-	-
SH-60B Seahawk (ASW Helos)	6	6
SH-60F (CV ASW Helo)	-	18
P-7 (LRAACA)	-	-
E-2C Hawkeye (Surveillance)	4	6
SPECIAL AIRCRAFT	*	*
T-44 (Trainer)	5	-
T-45 Goshawk (Trainer)	-	12
E-6A	-	-
HH-60H	-	-
TOTAL AIRCRAFT	139	170

* CLASSIFIED
** REMANUFACTURED AIRCRAFT ONLY
*** INCLUDES 18 NEW AND 6 REMANUFACTURED AIRCRAFT

Strike

Strike/antisurface warfare aircraft are the means by which our carrier force projects offensive power ashore or against other naval forces. All weather attack responsibilities will continue to be executed by the A-6E INTRUDER until the A-12 is introduced into the fleet in the mid-1990s. The A-12 is the Navy's top aviation priority. Incorporating significant stealth characteristics and greater range, this revolutionary tactical aircraft will be able to penetrate even the most heavily defended enemy areas to reach and destroy targets. The anti-air threat to aircraft continues to grow at a phenomenal rate. Throughout the world the proliferation of easy-to-use anti-air missiles and increasingly sophisticated air defense networks places a premium on the introduction of stealth aircraft. The Air Force and the Navy have joined forces in the development of this aircraft and have achieved reductions in development and procurement costs.

The versatile F/A-18C Hornet will continue to enter the fleet at a steady rate. A force-multiplier capable of close air support, fighter escort, interdiction, and fleet air defense, this aircraft features advanced avionics, low maintenance, superb displays for the single pilot, and excellent growth potential.

Air Superiority

Antiair warfare aircraft are the primary means for achieving air superiority throughout the carrier battle group's offensive reach. The key element of the AAW force is the F-14. The F-14D will first enter fleet service in FY 90, representing a major upgrade to new and existing aircraft and providing new high performance engines, a state-of-the-art digital radar, and new digital avionics. The FY 91 budget

contains funds to remanufacture 12 F-14As into F-14Ds. To provide all weather active and passive air and sea surveillance, six E-2C Hawkeye aircraft, featuring the APS-145 radar, are funded. Three EA-6B electronic countermeasure aircraft will undergo a remanufacture program designed to sustain their effectiveness against advanced threat systems already appearing around the globe.

Antisubmarine Warfare

ASW aircraft are critical factors in the Navy's number one warfighting priority. Important in both the strategic and tactical arenas, tactical air ASW exploits two unique characteristics of aircraft: high speed mobility with associated operational flexibility, and moderate immunity from detection and counterattack. The P-7 Long Range Air ASW Capability Aircraft (LRAACA) will provide increased payload, greater range, longer endurance on station, higher transit speed, and dramatically improved reliability, maintainability and survivability. Equipped with the Update IV submarine detection system, P-7 production is scheduled to begin in FY 92 with advance procurement funds for the first three aircraft included in this budget. The Update IV system will also be retrofitted into the existing P-3 fleet. Funding for upgrades to our carrier-based S-3 ASW aircraft will continue in FY 91, providing the S-3 with an improved avionics package and the APS-137 Inverse Synthetic Aperture Radar (ISAR). The S-3 modernization is getting rave reviews from fleet operators.

Procurement of two SH-60 shipborne helicopter variants will continue in FY91 -- six SH-60Bs (LAMPS MKIII) which provide both ASW and anti-surface capabilities to our battle groups and to our surface combatants, and eighteen SH-60Fs (CV helo), equipped with dipping sonar, which will be the carrier-based replacement for the aging SH-3. This new carrier ASW capability is expected to be deployed in FY 91.

Training

In FY 91, replacement training aircraft are needed for current T-2 and TA-4 jet trainers. This follow-on trainer, the T-45 GOSHWAK, comes with an integrated system that provides virtually all of the fundamental elements of flight training -- academics, simulation, and flight -- all of which will be coordinated by computer based training integration. Funding for twelve T-45s is included in the FY 91 request.

READINESS

Operating an effective Navy on a day-to-day basis is the goal of readiness. It constitutes the ability of the Navy to execute its national defense responsibilities, which may range from a presence in response to threats to the lives of the hostages, to a strike deep into the heart of nations supporting terrorism. Navy readiness is America's insurance for crises. It consists of operations and support funding for people, initial and replacement spares, base operations, training, ordnance, fuel and maintenance.

The request of $24,531.6 million in FY 91 will support naval operating forces including operation and maintenance of ships, aircraft (including Marine Corps aircraft), weapons and support equipment, as well as the total spectrum of ongoing activity within the Navy support establishment.

Our people are our most fragile and perishable readiness asset. Any mandated reduction in forces must be clearly balanced so as to not compromise our personnel experience levels or our training requirements. We must continue to pay close attention to quality of life issues, including a decent wage, reasonable PERSTEMPO, high-calibre and quality training, continued improvement of medical services, decent housing, spiritual counseling availability and

enhancements in dependent programs.

Continued success at maintaining a well-motivated, high-quality All-Volunteer Force capable of working with and operating technologically sophisticated equipment will rest directly on the continued investments we make in them. Necessary to this are maintenance of equitable compensation, comparable to civilian rates, an adequate quality of life and a rational end-strength.

The request of $19,363.1 million for MPN in FY 91 will support an end-strength of 584,800, a decrease of 5701 from FY 90. This end-strength decrease is related to the inactivation of two battleships, the transfer of frigates to the NRF, the change in delivery of the GEORGE WASHINGTON and a reduction in naval infrastructure. Additionally, the Defense Management Review resulted in a reduction of 1668 in end-strength related to the civilianization of military personnel in various support functions. The MPN funding increase in FY 91 is primarily tied to the pay raise of 3.5% effective 1 January 1991. This funding increase is partially offset by strength reductions and a transfer of Subsistence-in-Kind funding from the Military Personnel, Navy appropriation to the Operation and Maintenance, Navy appropriation.

SUSTAINABILITY

Sustainability is essentially the "staying power" of the Navy. It is measured by our ability to supply our forces with the required fuel, spares, repair parts, ordnance and food, and includes funding for war reserve stocks. Sustainability is the life-line that allows us to maintain a combat ready, forward deployed Navy around the globe.

In light of force structure changes and the reduced likelihood of a near-term conflict with the Soviet Union, we will continue to re-evaluate the scenarios and parameters from which we derive the sizing

of our weapons inventories. We intend to avoid accumulating large inventories of high-cost weapons that would likely be made obsolete by advances in technology before they would be needed in combat. Procurement decisions favor those weapons which would be used in the most likely conflict scenarios.

The Weapons Procurement appropriation request of $6,161.4 million funds procurement of strategic and tactical missiles, satellites, torpedoes, guns and other weapons, ammunition and other ordnance, spare parts and support equipment. The Trident II (D-5) program resumes full rate production following recent successful flight tests. The TOMAHAWK missile program supports maximum competitive dual-source production levels, accelerating near-term procurement while capturing substantial cost efficiencies. A total of 900 STANDARD missiles will be bought on a dual-source basis for our AEGIS cruisers and destroyers.

Part of the sustainabilty pillar includes our Reservists, for which funding in the amount of $1,624.6 million in FY-91 has been requested. This will support an end-strength of 149,700 Reservists, a decrease of 3,700 from FY 90. This decrease reflects the combined effect of the additional ships transferring to the Naval Reserve, a Navy decision to reduce Full Time Support workyears, and a DOD decision to reduce the Naval Reserve infrastructure. Funding will also provide for Individual Ready Reserve (IRR) screening of 34,480 reservists and an additional 289 full time support personnel to accommodate a net increase of five ships being introduced into the NRF in Fy 91. The same FY 91 pay raise factor described for the MPN appropriation is reflected in this account.

MODERNIZATION

Modernization includes all Navy research, development, testing and evaluation (RDT&E), fleet modernization or ship alterations, and aircraft and weapons modifications. These funds allow for cost-effective improvements to current systems and for research and development so that we might identify the most promising avenues for future improvements.

Research and development provides the means to maintain our warfighting edge. In addition to improving our warfighting capability, technology also provides the means by which we increase reliability, effectiveness and maintainability of systems and component equipments while reducing manning, support and follow-on acquisition costs. Operational and tactical superiority demand a dynamic research and development program to support the forces of the future and to hedge our bets against new and "surprise" technologies that could pose grave dangers. We must maintain a vigorous technology base so that the newest and most modern of technologies are understood and available for application to defense needs if required. Since the MONITOR and MERRIMAC, success at sea has been determined by the intelligent and innovative application of technology. If we lose our technological edge, we lose maritime superiority.

The RDT&E appropriation request is $9,102.4 million, a decrease of $363.4 million from the FY 90 request. Most of this decrease is the result of tactical programs transitioning to production. We are witnessing the fruition of our past investment in RDT&E and must now think about the next generation of weapon systems. The technology base, which provides funding for basic research and exploratory development with the primary objective of increasing fundamental scientific knowledge adaptable to solving needs of widely varying future requirements, increases by $62.5 million over last year's

budget. This is our investment in the next generation of naval systems.

Our programming has as one of its aims the maintenance of our technological and operational advantage in antisubmarine warfare. One of the significant characteristics of the SEAWOLF attack submarine is the designed-in capability to accept future technological advances. The Advanced Submarine Technology Program Office, in the Naval Sea Systems Command, is working closely with the Congressionally-directed Defense Advanced Research Projects Agency's (DARPA) Advanced Submarine Technology Program to identify revolutionary submarine technologies so that we may preserve our undersea superiority.

MEDICAL CARE

It is essential that we have a cadre of professionally trained and physically capable men and women to man the fleet. My continued primary commitment to our people has resulted in a significant shift of resources to the issue of medical care for themselves, their families and our retirees. The impressive investment we have made in medical readiness over the past several years has left us better able to support our sailors and marines. This preparedness allows us to reorder our near term priorities toward refurbishing our peacetime healthcare system. Prudent investments in a balanced military medical system help us retain dedicated military professionals. Carefully planned and executed, these investments provide tangible returns by allowing us to partially escape the high costs of purchasing healthcare services through the CHAMPUS program.

CONCLUSION

In an international environment marked by the potential for continued military competition with the Soviet Union as well as a continuation of the instability that has defined much of the world since 1945, the size and capability of the United States Navy will be a significant determinant of our country's ability to fulfill its role as the world's only true superpower. At a minimum, the U.S. Navy must be large enough to maintain a credible naval deterrent in the event of an adverse change in the international outlook of the Soviet Union. We must be able to prevail against the Soviet Navy and ensure that the sea lines of communication with our allies remain open. We must also have sufficient forces to maintain a forward presence in East Asia, Southwest Asia and the Mediterranean. Additionally, we will be playing an increasingly important role in our national effort against drugs.

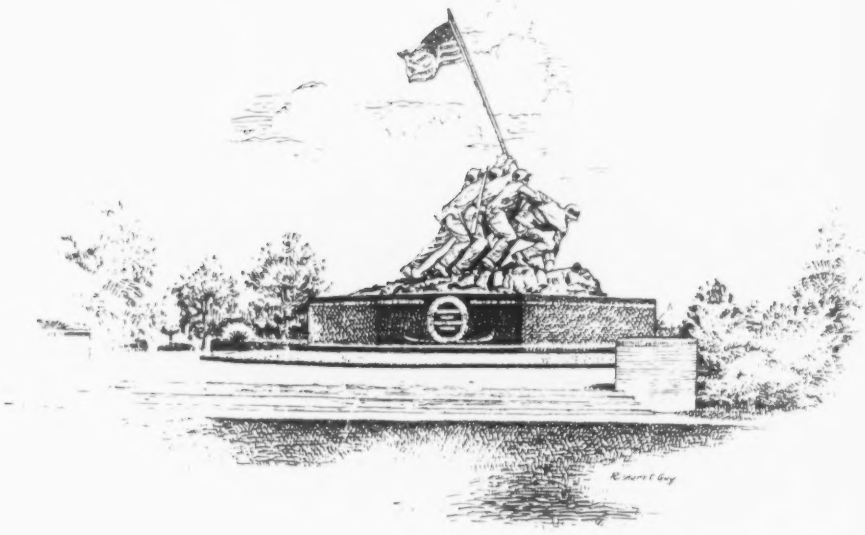
In view of our experiences with contingency and limited objective operations as well as Third World crises since World War II, we must have sufficient forces to cover those events without abandoning our presence in other areas of the world. In the 1990s, our nation's defense concerns will shift away from a sharply continental focus to more broadly encompass Europe, the Pacific, Middle East, Caribbean basic and Southwest Asia. We must also have sufficient forces to ensure our maritime superiority while maintaining a tolerable quality of life for our seagoing sailors, through a reasonable rotation of forward deployed ships.

In general, the FY 91 Navy budget request enables the U.S. Navy to maintain a properly sized and balanced force in the face of a reduced Soviet threat.

Annual Report to the Congress

General A.M. Gray
Commandant of the Marine Corps

1990



Thank you for this opportunity to report to you on the posture of your Marine Corps. This is the third report I have been privileged to present to Congress.

The past year has given the free world reason for optimism. History is likely to record 1989 as the year the West achieved a "victory" in the Cold War. It is a victory for all who have served in the defense of this Nation, and more importantly, a victory for all who believe in the fundamental rights of every man. Our foreign policy of containment provided the framework for this victory, while the forward presence of our Armed Forces ensured it. Today, we are encountering many of the same challenges of economic reality and defense concerns our Nation faced at the end of World War II. During that period, we allowed the budget rather than strategy to shape our military. We paid dearly for this flawed approach in June of 1950 when North Korea crossed the 38th parallel and invaded South Korea. Virtually overnight, our Nation was faced with reversing a five year trend of conventional force disarmament. The reality was that five years of force reductions limited our ability to respond quickly. We recovered, but only after three years of conflict and the loss of 33,629 American lives. We should not casually dismiss this lesson in our history as we ponder today's challenges.

Soviet Threat

As we formulate strategy, we must acknowledge the unpredictability of our world. The Soviet Union and its alliances may be unravelling, but neither ideology nor nationalism is dead. We must remember that the Soviet Union remains a military superpower, capable of threatening our way of life. It has not abandoned its client states, although its influence may have diminished. Paradoxically, we may no longer be able to count on the stabilizing influence of the Soviet Union, and its ability to reign-in renegade surrogates. While we

must respond to the changing military balance in Europe, and to an anticipated decreased threat from the Soviet Union, we must remain sensitive to the potential instabilities that these conditions have precipitated. As Europe transitions to a new era, it will face difficult political and economic challenges which could contribute to these instabilities. We can only speculate on the outcome, but relatively recent instability embroiled the world in two wars within a period of less than thirty years. While our National Military Strategy remains solidly based on deterrence and forward defense, we must consider how it will be influenced by the changes in Europe and elsewhere in the world.

Regional Threat

As we reassess the threat, it becomes apparent that any number of regional powers with competing ideologies, cultures, and nationalistic aspirations could threaten our global interests. These regional powers, either present or emerging, provide our most likely sources of conflict. They have the potential to trigger a United States military response to protect our vital interests. We can expect these nations to have sophisticated high-technology weapons, to include weapons of mass destruction, and well trained armies. They need not be superpowers; North Korea, Iran, Libya, Cuba and Nicaragua are cases in point. Our interests in stability and our support for our friends and allies around the world illustrate the need for a military capability broader than the defense of our homeland.

Our economic health and well-being, and that of our allies, depend on international trade and unimpeded use of the seas. The United States' dependence on world trade has risen from $16.3 billion in 1960 to $460 billion in 1988, and our reliance on other nations for oil and critical mineral imports continues to increase. These interests can be threatened at several critical points throughout the globe. The four geographical areas which I believe

offer the most potential for future conflict are the emerging nations of the Pacific rim, the mineral rich nations of Africa, the volatile nations of the Middle East, and the turbulent nations of Latin America. All of these areas are currently dealing with active insurgencies which potentially threaten our interests and those of our allies. Latin America, for instance, is embroiled in wars against narco-terrorism and insurgency. Its proximity to the U.S. border makes it an area of immediate concern.

Strategy

Our future strategy should be based on our ability to respond to a wide variety of threats. The issues are complex and they increase the need for wisdom and a long range perspective in our decisions. We must retain the ability to respond to unforseen crises, or be content with the role of casual observer. Weakness, real or perceived, invites attack or at least abuse. Military strength takes considerable time and capital to build. We cannot allow ourselves to regress to an era of budget driven strategy. Rather, **our strategy must be firmly based upon our enduring national interests and an assessment of the threat to these interests.** We must, therefore, consider all elements of the equation simultaneously, and not focus on the most obvious one: improved relations with the Soviet Union and the subsequent reduction of the Soviet threat.

As a maritime Nation, we cannot dismiss our geography and the unique requirements it imposes. We are dependent on the free use of the Sea Lines of Communications and access to the natural resources of the world for our economic and security needs. For the past forty years, **we have been a maritime nation with a continental strategy, while the Soviet Union, a continental nation, pursued a maritime strategy.** The changes in the international security environment provide a golden opportunity for us to reassess our

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position, take advantage of these changes, and pursue our goals in a manner consistent with our national character. **Today's corollary to yesterday's "keep your powder dry" is "keep your Naval forces at sea."**

Naval Force Requirements

Geography and today's international political climate validate the requirement for naval forces. Since World War II, naval forces have responded to **over 80 percent** of all international crises. Given the political and economic densities of the world's littorals, we can reasonably expect that the majority of international crises will continue to occur in areas accessible from the sea.

We are facing a future where access to overseas bases and support for forward based forces is decreasing. Deterrence and forward defense under these conditions puts a premium on capable, mobile, logistically independent naval forces able to demonstrate U.S. presence and power projection capability on the horizon of all but a handful of countries. Naval forces operating in international waters provide our decision makers with a **"sheathed sword."** They can be positioned off the coast, either over the horizon or in full view of a potential adversary, to convey our National intent. They are a visible representation of America's willingness to resolve a crisis diplomatically or politically, but also indicate that, as a last resort, we will **"draw our sword"** and respond militarily. The fact that the overwhelming majority of crises to which naval forces have responded since 1945 were resolved without military intervention further underscores the deterrent value of naval power.

The Corps

A unique characteristic of United States naval power is the inclusion of a completely integrated, air-ground, force-in-readiness -- the United States Marine Corps. We are a combined arms force designed to provide the Nation a ready crisis response capability. When required, we are capable of forcibly projecting and sustaining combat power into a hostile region.

Following enactment of the National Security Act of 1947 which set forth the composition and functional responsibilities of the armed forces, your predecessors in these halls met again in 1952 to define more specifically the roles of the Services. The record of those hearings provides insight into the intent of Congress, as it viewed the need for a Marine Corps, and the wisdom in the deliberations which took place concerning it. Our legislators envisioned a force of combined arms in the active structure which, in partnership with the Navy, would provide the ready, expeditionary forces necessary to protect U.S. interests abroad. Being naval in character, yet oriented in function to the land and air, such a force could operate with the fleet around the world. This force would be independent of the requirements for overseas basing, yet able to provide the complete spectrum of response to "...minor international disturbances." The lawmakers envisioned, beyond this purpose, that such an organization would be available for other "...duties as the President may direct." For almost forty years, these requirements have been the blueprint for your Corps' strategic, operational, and program planning efforts.

Today, forces of combined arms are formed from the resources contained within our divisions, aircraft wings and support units into **Marine Air-Ground Task Forces (MAGTFs).** These unique, flexible, formations range from small Special Purpose Forces to large Marine

Expeditionary Forces of 50,000 or more personnel. **MAGTFs can be configured as light, air transportable, self-sustaining expeditionary forces; as powerful assault forces capable of employment from amphibious shipping; or as mechanized forces to be flown to, equipped from, and sustained for an extended period by our Maritime Prepositioning Ships Squadrons.** All MAGTFs have inherent special operations and low-intensity conflict capabilities that are continually being enhanced. After a demanding comprehensive training and certification program, our forward deployed MAGTFs are designated special operations capable. Each forward deployed MAGTF is capable of time-compressed planning, and is required to be ready to commence mission execution within six hours of receipt of its mission.

We provide each of the warfighting CINCs with an array of force employment options that take full advantage of our capabilities and multiple means of deployment. Marines embarked aboard our Navy's amphibious ships provide a **self-sustaining, forcible entry capability which can be flexibly sized to mission requirements.** As our access to overseas bases and overflight rights decreases, our reliance on this capability for crisis response will become even greater. Shortly after the turn of the century, however, **over 50% of our current amphibious ships will reach block obsolescence.** We must have your support for a vibrant amphibious shipbuilding program, otherwise, our Nation's ability to maintain forward presence around the world and to project and sustain power, when needed, will be severely reduced.

We can also deploy MAGTFs by airlifting Marines, helicopters, and tactical aircraft to locations where they can be aligned with either the Maritime Prepositioning Ships (MPS) or our prepositioned equipment and supplies in Norway. In the first case, a brigade of

Marines, as large as 17,000 personnel, 60 helicopters, and 70 tactical fighter aircraft can be deployed by strategic airlift to link-up with one of the three squadrons of Maritime Prepositioning Ships along the littorals of the world. Fewer than 250 C-141 equivalent strategic airlift sorties are required to deploy the entire force. To deploy this same size force, together with 30 days of sustainability without these strategically mobile, floating warehouses, would require approximately 4,500 sorties. This would severely tax our strategic airlift resources. The MPS brigades can be deployed, linked up with their equipment, and ready for employment in under 10 days. This unique strategic mobility enhancement and force deployment option is afloat now. It is an extraordinary program, set into motion a decade ago, and available today. Its readiness is maintained by regularly scheduled exercises conducted around the globe. In a quantitative sense, the three squadrons of Maritime Prepositioned Ships, strategically disposed in the Indian Ocean, Western Pacific, and Atlantic Ocean enable the nation to deploy at a cumulative cost of under 750 strategic airlift sorties, 51,000 Marines, 180 helicopters, and over 200 tactical aircraft in response to a crisis, regional conflict, or war. We are continuing to refine the structure of these Maritime Prepositioned Forces to provide increased flexibility when a force of less than brigade size is required.

In 1980, to strengthen the defense of NATO's vital northern flank, the United States earmarked a brigade of Marines for reinforcement of this region. The supplies and equipment for the brigade are stored in underground storage facilities in Norway. A MAGTF of approximately 13,000 Marines can be airlifted to join with this equipment and be ready for operations in just ten days.

The third dimension of our crisis response capability, or our ability to reinforce rapidly our forward-deployed amphibious forces, rests in our three Marine Air Contingency Force packages which are on ready alert throughout the world every day. These forces are light brigades, poised for world-wide deployment via strategic airlift, beginning within four hours of notification. They are a means of deploying Marine forces rapidly to a crisis, or of rapidly expanding the capabilities of amphibious or maritime prepositioned forces already committed.

The Nation has at its call today a Corps capable of service at sea, on land, or in the air; a Corps highly trained, well equipped, with high levels of sustainment, completely integrated as an air-ground package, and not dependent upon the mobilization of a single Marine to respond to crisis or meet its wartime commitments. With a combination of amphibious ships, Maritime Prepositioning Ships and land prepositioning, and strategic airlift, **you can deploy the Corps where you need it, and when you need it - NOW!**

Current Operations

The past year has once again been a period which validated our aggregate utility and our focus on low-to mid-intensity conflict. Marines responded to crises throughout the world in Lebanon, Panama, and the Philippines. Naval forces responded to crises in Lebanon on two occasions. The Lebanese Civil War in February and the Hostage Crisis in August of last year found Marine Expeditionary Units, with special operations capabilities, as part of a Naval Task Group poised off the coast for potential evacuation operations. Two years ago, Marines deployed to Panama in April of 1988 to augment the Marine Security Force ashore at the canal. In May of last year, following the violent election campaign in Panama, a company of Marines with their Light Armored Vehicles

were deployed to reinforce U.S. forces. Finally, in December of 1989, all of these Marines participated in Operation Just Cause.

Perhaps the most visible representation of the utility of naval forces was the crisis response to the recent coup attempt in the Philippines. Four Marine combat elements responded immediately. The 9th Marine Expeditionary Brigade was already enroute to the Philippines to participate in an exercise. Marines from the brigade were flown in to augment the security forces at the Naval Base in Subic Bay. A Marine Expeditionary Unit, embarked aboard ships of the U.S. Seventh Fleet, was standing by off the coast and prepared for operations. A company of Marines from the Marine Corps Security Force at Subic Bay reinforced the Marine security guards at the American Embassy **within minutes** after the coup attempt. Finally, an Air Contingency Force of 2,000 more Marines stood by on **four hour alert** on Okinawa ready to deploy by airlift to the Philippines if required.

Last year also saw Marines involved in the fight against the flow of illegal narcotics into our country. Aviation, intelligence, and ground reconnaissance support was provided to Law Enforcement Agencies operating in the Caribbean and along the southwest border. Marines working closely with the Drug Enforcement Agency (DEA) train their agents before they deploy to South America, and assist DEA in planning its active operations. These activities concentrate on the supply side, but perhaps even more important, we are attacking the demand side of the equation with equal vigor. Active duty, reserve, and retired Marines were and remain actively involved in youth anti-drug education programs throughout the country. Our work with federal, state, and local law enforcement agencies, both in law enforcement and social service, has forged a formidable partnership in support

of our President's goal for a drug free society. At home, Marines assisted with humanitarian relief efforts following Hurricane Hugo, the San Francisco Earthquake, and participated in the Alaskan Oil Spill cleanup operation.

The diverse missions accomplished by Marines throughout the past year illustrate the broad utility of the Corps to the Nation in any form of crisis. The day-to-day high level of readiness of all Marines enables us to concern ourselves with the question " How quickly can we get there?" and not," Are we ready to go?" Whether via amphibious shipping, strategic airlift, prepositioning, or a combination of all three, **Marines can respond to a crisis with the combat power required, and equally as important, the sustainability to win.**

Service Planning

As a Military Service, our responsibility is to provide forces to the combatant commanders that are structured, trained and equipped to meet their needs. Using the direction contained in National Security Decision Directive 219 and the mandates contained within the Goldwater-Nichols Defense Reorganization Act of 1986, **our planning process is driven by an assessment of the threat, a review of the national strategy, and the identification of operational requirements needed to execute our strategy.**

Using the foregoing planning process, we have completed three of the plans which will guide our Corps into the 21st century. The first, the **Marine Corps Campaign Plan**, provides a common direction to Fleet Marine Forces and the supporting establishment. It focuses our policies, programs, and studies to meet long term and contingency requirements. The second, the **Marine Corps Long-Range Plan**, projects Marine Corps concepts, capabilities, and goals 10-20 years into the future. The third, the **MAGTF Master Plan**, focuses on operational concepts and requirements at all levels of employment through the year 2000. The Master Plan places an increased emphasis on low- to mid-intensity

conflict. Using the goals initiated in the long-range plan, it establishes priorities for mid-term operational requirements. This plan is the cornerstone of our planning, programming, and budgeting actions.

The Marine Corps participates fully in the Department of Defense's collective planning efforts throughout our own planning process. All that we do to build, train, deploy, employ, or sustain our operational forces is done in coordination with the Department of the Navy, the Joint Staff, the Office of the Secretary of Defense, and the combatant CINCs. To be specific, the Marine Corps' Service planning process is fully integrated with, and responsive to, both the Joint Strategic Planning System and the Planning, Programming, and Budgeting System. For example, the Marine Corps Long Range Plan and the MAGTF Master Plan are designed to interact with the development of National Military Strategy, the Defense Planning Guidance, and the Program Objective Memorandum. Each document is designed to be responsive to change in the security environment to include the threat, National Military Strategy, and fiscal realities.

The benefit from this revised process is an identifiable linkage, traceable from strategy, through Service planning, down to the capabilities and expenditures for specific programs. Our planning drives the six primary elements which contribute to our warfighting capabilities: doctrine, structure, equipment, manpower, training and education.

Innovation

Our maneuver-oriented doctrine reflects an understanding of the operational requirements of modern warfare. The diversity of threats requires a doctrine which addresses the wide range of combat situations that Marines will likely face. Fleet Marine Force Manual-1 (FMFM-1), **Warfighting**, published last year, is the first of our keystone

doctrinal publications. It articulates our operational philosophy and provides the authoritative basis for how we fight. It provides not just guidance for combat actions, but, more importantly, a way of thinking about combat in general. **Warfighting is the philosophy for our profession of arms.** This year, it will be complemented by the publication of: FMFM 1-1, Marine Corps Role in National Defense, FMFM 1-2, Campaigning, FMFM 1-3, Tactics, and FMFM-2, MAGTF Operations. As long as Marines are well trained in fundamental individual and unit skills, and leaders have been conditioned to adapt quickly, improvise, and act based on their estimates of the situation, the Marine Corps will measure up to our Nation's requirement for military flexibility and readiness in an uncertain world.

As in the past, your Marines will continue to use our warfighting philosophy as the basis for innovation in doctrine, tactics, techniques, and equipment development. Implicit in our mission as a force-in-readiness is the requirement to update our warfighting structure and operational requirements. By studying the security environment and anticipating change, we have been able to identify requirements, sometimes before they were realized or commonly accepted, for the doctrine, operational concepts, equipment, and techniques needed to meet evolving strategic and tactical needs. Responding to the requirements of expeditionary warfare, Marines took the lead in the development of amphibious doctrine and equipment, close air support techniques and aircraft to include vertical take off high performance jets, the helicopter, the vertical assault concept, the Light Armored Vehicle, and sea-based prepositioning.

Recognizing that threat conditions are changing, we have responded by refining our structure to be more responsive to the new security environment. These actions have

resulted in several enhancements to our MAGTF structure, doctrine, and equipment. For example, we have been working in partnership with the Navy toward an improved ability to project forces more rapidly over extended distances. The ability to **project power from over the horizon**, bypassing first line enemy defenses to insert forces deep to inland objectives, is an operational maneuver requirement needed to meet the warfighting needs of our Nation well into the 21st century. Over-the-Horizon operations will dramatically expand the number of areas into which we can project power, provide tactical surprise, and allow us to fully exploit our warfighting enhancements.

MAGTF Enhancements

Building on the achievements of the last decade, **we have enhanced our capability for low- to mid-intensity conflict.** Our efforts enabled us to improve the **existing capabilities** of our MAGTFs without adding manpower. Using a bottom-up approach, we began with the basic infantry squad and concluded with the development of the requisite support functions needed to maintain and sustain our MAGTFs in combat. While fiscal constraints have forced the cadre of three infantry battalions (3000 Marines) in 1989, we have been able to develop an optimal and flexible infantry battalion structure as the building block for all force structure and manpower initiatives.

We have enhanced our infantry battalions. Selective additions have improved their mobility, firepower, and sustainability. We have added a fourth maneuver company to our infantry battalions to improve their flexibility and reconnaissance capability. Similarly, each of our reconnaissance and combat engineer battalions have been improved by the addition of a fourth company. In addition, Scout Infantry have been added to our Light Armored Infantry battalions. We are also improving our existing Civil Affairs and Psychological

Warfare capabilities. These changes have been accomplished in part by reducing heavier units from our active structure and moving them to our reserves, and by streamlining our command elements and combat service support units. These adjustments have improved the ability of our expeditionary forces to control and influence larger areas while employing Marine tactics that have previously been proven to be relevant to today's low- to mid-intensity threat environment.

The intelligence gathering, analysis, and dissemination capability of our MAGTFs has been dramatically improved with the creation of a Surveillance, Reconnaissance, and Intelligence (SRI) Group. The SRI Group consolidates these critical capabilities, and links the MAGTF's command element to national intelligence systems. This capability, together with its resident air, ground, and logistics elements, has enhanced our ability to provide a rapidly deployable Joint Task Force headquarters to the CINCs. Simply stated, we have sharpened our teeth and shortened our tail with enhancements made from within our existing force structure.

Research, Development and Acquisition

We have traditionally looked to the future for innovative ways to improve existing capabilities and develop new ones. A streamlined and more responsive research development and acquisition process has made it possible to place the best equipment in the hands of our Marines in the shortest time. Our priorities in Research, Development, and Acquisition programs are based on the procurement of systems necessary for projecting forces from the sea, onto the land, from distances well beyond the horizon. Our intent is to increase our ability to operate with added mobility and flexibility. The same vehicles used to project forces ashore must become our tactical mobility vehicles for operations on

land. Our foremost priorities are: a medium lift helicopter replacement, an advanced amphibious assault vehicle, and more lethality and capability for our light armored vehicles.

Medium Lift Replacement

No Marine Corps requirement is more pressing than the need to identify a solution for the replacement of our medium lift assault capability. The aging CH-46 helicopter is entering its 26th year of service life. While it has served us well, we can no longer expect it to carry Marines in harm's way on the modern battlefield. Precision guided munitions and hand-held surface-to-air-missiles place these thirty year old helicopters and the Marines they carry at risk. The decision to cancel MV-22 procurement has caused us again to re-examine available alternatives. This process is currently ongoing. Critical to our requirement is that any replacement must include the capability to:

- execute explicit strategic surprise and deception
- execute true over-the-horizon-operations
- deliver a rapid concentration of forces
- extract and redeploy forces at critical times
- enhance force survivability
- navigate and communicate at night and in adverse weather conditions

Having stated this requirement as our most pressing need, I should mention that whatever alternative is adopted, it will not be inexpensive. We urgently need to identify and procure a medium lift assault air-frame which will survive the threats, provide the needed mobility, and be able to remain in service well into the next century. I can assure you that our reputation for frugality will not be tarnished in this effort and that the weapons systems we identify will be both mission capable and cost effective.

Advanced Amphibious Assault Vehicle

To complement our vertical assault capability, we are pursuing the development of an Advanced Amphibious Assault Vehicle. This program is critical to gaining a true over-the-horizon power projection capability. The High Water Speed Technology Demonstration Vehicle has validated the concept of producing an amphibious vehicle capable of rapidly moving the elements of the MAGTF from amphibious shipping located over the horizon to inland objectives.

Ground Combat

Our ground combat capability was improved by the Soldier-Marine Enhancement Program of last year. Funds were provided for the continued development and procurement of more lethal infantry weapons and improved "soldier items" to include lighter, more comfortable load bearing equipment, field gear, survivability items, communications equipment, and navigation aids. This important program enhanced the warfighting capability of our Marines and is sincerely appreciated.

To expand the operational capabilities of the light armored family of vehicles we intend to continue expansion of this program to acquire an assault gun variant and an air defense variant. This lightweight, readily transportable, highly mobile asset is proving its worth in Panama today. With an expanded capability, it will add tremendously to our ability to operate at any level of conflict, particularly at low- to mid-intensity conflict levels. Recognizing the extraordinary potential of these vehicles, the Army recently requested, and we provided to them, eighteen vehicles to equip a scout element in the 82nd Airborne Division.

Aviation

We are continuing to improve our aviation assets by upgrading the avionics of our fixed wing aircraft and enhancing the night vision capability of our helicopters. To lower operating costs and increase commonality, we are reducing the number of Types/Models/Series of aircraft in our inventory by procuring in-production aircraft to meet our requirements. We will procure the F/A-18, the CH-53E, the AV-8B, and the AH-1W for our active and Reserve squadrons.

C4I2

We are also upgrading our Command, Control, Communications, Intelligence and Interoperable systems to enhance our ability to exchange secure, near real-time tactical information in joint and combined operations. Our new Intelligence Center will be a model fusion center for all-source intelligence, and it will focus on low- to mid-intensity conflict. The center will ensure that the collection and production of intelligence is tailored to the Marine Corps' unique mission requirements.

The Corps' focus on low- to mid-intensity conflict over the past two years has driven us to some major decisions, not only in our procurement plans, but most importantly, in the direction the Marine Corps will take in the next ten years. We have concentrated on those capabilities which will keep us responsive to our Nation's future requirements. This translates to weapon systems which can get to the fight quickly and influence the battle after they arrive. Heavier and less-deployable systems will take a lesser priority. It was this realignment of our priorities, and the realities of reduced funding levels, which prompted us to terminate the M1A1 procurement.

Manpower

Regardless of the threats which will face our Nation in the future, the military strategies we will develop to deal with them, or the equipment we will invest in to execute the strategy, our ability to preserve our national security will rest, as it always has, on the individual soldier, sailor, airmen, or Marine. Whether in the point squad, the lead airplane, or manning a ship at sea, people are our most valuable asset. They must "stand in harm's way" in complex circumstances on a daily basis. Accordingly, the main effort of our manpower programs and activities will continue to focus on recruiting, retaining, developing, and safeguarding quality Marines.

Where are your Marines?

Sixty-eight per cent of your Marines are assigned to our operating forces. They serve throughout the world with the Fleet Marine Forces (FMFs), with the security detachments on ships, posts, and stations, with the State Department, and with other national agencies and U.S. commands. We demand that these Marines, as well as the remaining 32 percent who comprise the supporting forces, be decisive, self-reliant, and versatile. They are capable of independent action and, when called upon, we expect them to lead in combat. Because of the serious responsibilities and demands we levy on our Marines, we will not compromise our standard of excellence.

Quality

We have recognized for a long time the link between our readiness and the caliber of our recruits. Supported by the resources Congress has provided, our recruiters have answered the call to recruit first-rate Marines. Last year, 95 percent of our accessions were high school graduates with fewer than 1/2 of one percent falling in mental category

IV. These Marines are bright, highly motivated, and eager to learn. The Corps' efforts to recruit quality Marines will not diminish.

Retention

We continually are aware of the importance of retaining the quality Marines we work so hard to find and train. We have been successful in keeping most in the Corps, but we must do more to keep quality Marines with critical skills on board. Retention management programs like the Aviator Retention Bonus (ARB), the Selective Reenlistment Bonus (SRB) and duty station incentives are crucial to us. They provide the tools necessary for retaining good, experienced Marines. These programs reduce our dependence upon new accessions, lower training costs, and contribute to stability and unit cohesion.

Total Force

Our emphasis on Manpower quality is enhanced by our commitment to the Total Force concept. The responsiveness and preparedness of our active forces will continue to benefit from the support of the Marine Reserve and our civilian manpower resources. We have taken steps to ensure that the Marine Corps Reserve is adequately structured, equipped, and trained to assume a larger role in augmenting and reinforcing the active forces when employed in high intensity conflict. Similarly, our supporting establishment is highly dependent upon the skills and professionalism resident in the 20,869 civilians for whom we seek funding in FY91. Finally, we will rely more heavily on our retired Marines. I expect all Marines to recognize the value of our retirees and to draw liberally from the experiences and knowledge present within their ranks.

Force Management

The Officer Force Management Review Panel (OFMRP) conducted a comprehensive review of our officer corps this year. The recommendations of the panel have provided us a blueprint with which to validate all of our officer Military Occupational Specialty (MOS) requirements. It also will allow us to correct grade and MOS imbalances and justify some increase in field grade authorizations under DOPMA. These actions will not adversely affect our ability to maintain a healthy officer to enlisted ratio.

Our active duty enlisted Marines are benefiting from the continuing improvement of Enlisted Career Force Controls. These controls are active measures taken to balance the population of first-term Marines with our requirement for Marines of specific grades and MOS's. The results are standardized promotion timing, some relief from critical MOS shortages, and an appropriate level of experience for each grade.

Quality of Life

Concomitant with readiness and retention are the quality of life programs which affect the lives of our Marines and their families. Our quality of life efforts feature concerned leadership, realistic training, sound education, discipline, including self-discipline, unit cohesion, and a strong sense of taking care of our own. **"Esprit de Corps"** and our leadership philosophy foster a high quality of life which instills values and attitudes which transcend each Marine's actual period of enlistment. In the words of our 13th Commandant, General John A. Lejeune, **"These men are in the formative years of their lives, and officers owe it to them, to their parents, and to the nation, that when discharged from the service they should be better mentally, physically, and morally then when they where enlisted."**

Today, we continue to emphasize the importance of the Marine Family because of the increase in the number of married Marines. I still am concerned about the high cost of living which requires two incomes to maintain the minimum requirements for food, clothing and shelter, and that there are Marines, serving their country, who are living on food stamps.

Maintaining our family housing is critical to our quality of life program. Our facilities maintenance, repair, and construction programs reflect quality of life requirements and the replacement of aging facilities and infrastructure. Whole house rehabilitations of Government Quarters are examples of how we intend to do the most with the resources we have. With your support, we have maintained the quality and availability of our family housing. We are devoting considerable effort to this important area, but the expanding dependent population and our limited resources hold us at the perpetual break-even point.

Our 18 Family Service Centers handled approximately 300,000 contacts last year. We are improving our responsiveness to the needs for relocation and deployment support. With increasing success, the Employment Resource Center program assists spouses in finding employment and assists retiring and separating Marines in obtaining civilian positions.

We are in step with the Military Child Care Act of 1989 regarding child care programs. We have reduced the child to staff ratio in our Child Development Centers and have improved our compliance inspection program. We are planning to expand the Family Day Care program this year through extended certification efforts.

Medical care for our Marines and their dependents remains a high priority. We are still experiencing shortages in the numbers of doctors, nurses, and corpsmen required. The new CHAMPUS Reform Initiative has been helpful in improving timely payments of claims,

however, we are still seeing many late payments. I respectfully ask that you continue to monitor and correct the deficiencies in these programs.

Training and Education

We have made significant changes in our training and education programs over the past year. I would like to express my appreciation for the interest and support you have provided. With your help we have achieved a virtual renaissance in training and education throughout the Corps.

We derive our training and education philosophy from the realities of tomorrow's warfare. The improvements in training and education will enable the Marine Corps to quickly respond to changes in the world order, witnessed in the past year and expected in the future. We determined that Marines must be proficient in both the science and art of warfighting. They must be tougher and better educated. The Marine Corps' ability to respond rapidly, to fight and to win, requires enhanced combat training and an enduring professional attitude of every Marine. It is an attitude which recognizes that the study of the profession of arms is a way of life. Our program ensures that every Marine, from private to general, active or reserve, is either attending a formal school or participating in a structured self-study program.

To meet this challenge, we have addressed all areas of training and education from boot camp through top level school. Our program derives its focus from short notice, high tempo, combined arms, maneuver-oriented conflict. The Corps' success will depend upon thinking leaders with the mental agility to apply the lessons of history to the complexity of the battlefield. All of our schools stress decision-making under conditions of uncertainty. They emphasize rapid planning and strive to replicate the chaos and uncertainty of the

modern battlefield. We teach our students to expect the unexpected, to use initiative, and to prepare for combat across the full spectrum of conflict. We place particular emphasis on low-intensity operations.

Training

Our entry-level training is now more combat oriented than ever before. There are no rear areas or occupational specialties which do not require a warrior. All Marines, regardless of MOS, train rigorously in infantry combat techniques.

Marine Battle Skills Training (MBST) is a comprehensive training program designed to develop and sustain basic combat skill throughout a Marine's career. The program includes extensive firing of individual and crew served weapons, basic knowledge of field skills, rugged battle drills and combat oriented conditioning. It is organized into progressive, mutually supporting stages which begin at boot camp and follow Marines throughout their service. Along with this program, we have made major improvements in combat marksmanship, close combat, combat water survival, and physical training.

Education

The Marine Corps University, established last year, marks a major step forward in our professional military education. It has cognizance over all Marine schools of professional military education. The University includes the NCO schools, the Staff NCO academies, The Basic School, the Amphibious Warfare School, and the Command and Staff College. We have staffed the Marine Corps University with a first-rate military and civilian faculty.

Two new programs will be offered at the University beginning in September 1990: **The School of Advanced Warfighting** and **The Art of War Studies**. **The School of Advanced Warfighting** will be offered to select graduates of Command and Staff College. The officers

selected will remain at Quantico for an additional year of study. The curriculum will prepare them for assignment to key positions in our MAGTFs and high-level joint and combined staff billets. The course will emphasize the operational art of war and a thorough review of the dynamics of joint and combined warfare.

The second program, **The Art of War Studies,** is designed to educate selected senior officers in the art and science of warfare. This program is the foundation of our efforts to ensure we have a first class faculty at our Command and Staff College. Students will study conflict throughout the spectrum and will be well versed in the doctrinal concepts of warfighting. Graduates will be assigned to a two year follow-on tour as a member of the Command and Staff faculty.

A planned research center will be the repository for historical records, studies, and analyses of expeditionary and amphibious warfare. This research center will support the University as well as being available to Marines worldwide.

We have also established the **Marine Corps Wargaming and Assessment Center** at the Marine Corps Combat Development Command in Quantico. Our Wargaming and Assessment Center assists us in validating changes to our concepts, doctrine, and plans. In an austere fiscal environment, wargaming is an accepted, cost effective substitute for expensive field exercises. We are tailoring and conducting wargames for all levels of war. Since March 1988, we have conducted over 30 war games for the formal schools, operating forces and reserve units of the Marine Corps. Additionally, our CMC Policy and Strategy Series provides war games for Flag and General Officers of the Marine Corps and other Services, CINCs, and the senior leadership of civilian agencies. In October of last year, we conducted an indirect warfare/counter-insurgency game centered on the Philippines. The

issues that we addressed during the game proved to be both timely and important. This year, the center will conduct a Counter-Narcotic game focused on policy and operational decision making. Our **Professional Reading Program** was designed to improve the operational literacy of our Marines. We have seen a dramatic increase in the number of Marines who are reading about their profession. Since the profession of arms is becoming more complex, and with the increased reliance on technology, we sometimes overlook the most sophisticated computer of all, "the human mind." Our training and education programs are designed to tap the intellectual and physical resources of our Marines and apply them to our profession of arms. Our training and education programs will institutionalize the changes we have made.

Conclusion

We have always emphasized training, education and discipline in everything we do. Our contributions to the Nation over the years are the result of the vision of exceptional leaders translated into battlefield performance by trained Marines. We are continuously shaping and tailoring our expeditionary forces to meet the unique requirements of a variety of conflicts and the countless deterrence deployments throughout the so-called periods of peace. Our expeditionary tradition and flexibility has prepared the Corps to respond almost by instinct to the tasks ahead. We have trained for years to achieve a high state of readiness. We are ready to deploy by any means available, ship, air, rail or road. We can escalate combat power to meet whatever we encounter, and we can operate with relative self-sufficiency or as part of a Joint Task Force. Today, our training and education programs prepare Marines to respond to and to overcome whatever challenges a rapidly changing world order dictates.

The Marine Corps has been modernized from the bottom-up. This modernization has prepared us for the most probable threats of the future. The most important elements of any threat however, are capabilities - not intentions. While we are seeing a reduction in the Soviet threat, the potential for conflict among the emerging nations of the world is increasing. Two years ago, we charted a course for the Marine Corps which would enhance our ability to respond to the changing international security environment. This has enabled us to build upon the existing structure of our MAGTFs, with their organic air support and combat service support, for self-sustaining, maritime expeditionary operations in low- to mid-intensity conflict.

Based upon the need for a force-in-readiness and the belief that her Marines will prevail in crises, our Nation has made a significant investment in her Marine Corps. We provide a high return on that investment. **Naval forces have been the Nation's force of choice in 80% of our military crises since the end of World War II. With this in mind, it is important to note the Marine Corps provided significant forces in over 50% of these situations. This is our return to the Nation for approximately 5% of its defense budget investment.** In short, the investment has already been made, the forces already exist, and the expeditionary capability is already resident in your flexible, useful, and ready-now, force of combined arms called Marines. **Your Corps will continue to take what you give us, do what is required - and more.**

Our request for FY 91 is as follows:

($ Millions)

Appropriation Table	FY89	FY90	FY91
Military Personnel Marine Corps	$5,679.0	$5,794.3	$5,918.6
Reserve Personnel Marine Corps	315.0	314.5	336.4
Operation and Maintenance Marine Corps	1,839.9	1,808.7	1,948.1
Operation and Maintenance Marine Corps Reserve	77.4	77.4	86.1
Procurement Marine Corps	1,291.8	1,075.2	782.1
Family Housing Marine Corps Allocation	156.0	152.4	137.5
Military Construction Marine Corps Projects	275.5	178.1	142.0
Military Construction Marine Corps Reserve Projects	4.7	16.3	8.9
Stock Fund Marine Corps	32.8	19.8	25.6
Total	$9,672.1	$9,436.7	$9,385.3

DEPARTMENT OF THE NAVY
UNITED STATES MARINE CORPS

Concepts and Issues

1990

Concepts and Issues

1990

Marines: The Decade of the '90's Begins

This, the eighth edition of **Concepts and Issues**, explains to those interested in the Marine Corps, **how** Marines fit into our national security strategy, **what** particular capabilities the Marines provide, and **how** the Corps is organized, trained and equipped to meet the challenges of the next decade and beyond.

As the conclusion of the 20th Century approaches the Corps is found to be in a high state of readiness, manned by many of this nation's finest young men and women and well organized to respond to the most probable taskings. The clear guidance and determined support of the Secretary of the Navy, coupled with our traditionally strong bond and shared common objectives with the Chief of Naval Operations and the men and women of the U.S. Navy, have enabled the Corps to sustain those qualities of a formidable force-in-readiness which for years have been our legacy. The enduring assistance and wise counsel of the Secretary of Defense, and the Chairman and members of the Joint Chiefs of Staff, have furthered the advance towards development of Marine forces ideally suited to fulfill the most likely obligations of the decade.

Explained in this booklet is both past and prologue. You will be made aware of the relevance of the forces, their substantial capability in existence today and the course we are embarked upon to preserve and protect those capabilities desired as a consequence of the considerable investment that our Commander-in-Chief and the Congress have made in the Marines.

The world is in a state of change and Marines are adapting. There may never before have been a time in the history of this Nation when Naval Forces have been as important or germane to the national defense. The necessity to be highly capable and well prepared to project power from the sea is a precious asset now available that must be preserved. What follows is an explanation that describes in some detail how we intend to protect this most relevant capability. As in the past we shall take whatever resources are allocated and prudently convert them into combat power. Should there be a need to apply this power it will be done smartly with the tenacity, zeal and sense of purpose that have been our hallmark for over 200 years.

A. M. GRAY
GENERAL, U.S. MARINE CORPS
COMMANDANT OF THE MARINE CORPS

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Appendix A

Glossary

1

The Decade of the '90's Begins

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"A Marine Expeditionary Unit (Special Operations Capable), as part of a Naval Task Force, stands off shore in international waters ready to evacuate U.S. citizens during a coup overseas. It also can provide training assistance to a struggling democracy if required. A Fleet Anti-terrorism Security Team company, as part of a Marine air contingency force, deploys via strategic lift to reinforce a U.S. Embassy during a period of instability in a foreign country. At the same time other specialized units focus their unique skills to gather intelligence against terrorist groups and drug smugglers or assist a developing nation help itself. At home, Marines assist in fighting a forest fire or are on scene to provide hurricane disaster assistance. In or out of uniform, Marines work to spread the concept of a drug free society. These are but a few of the tasks performed by Marine Air-Ground Task Forces around the globe today."

The rapid series of changes in the Soviet Union and Europe has **once again underscored the need** to reassess fundamental assumptions about our national security posture. Our security requirements reflect a dynamic relationship between enduring national interests, the world environment, and our military strategy. While the international environment has changed dramatically in the past year, certain realities about U.S. national interests remain unchanged. The U.S. remains an **island** nation dependent upon the seas with global interests that must be protected.

These interests extend beyond our own territorial boundaries. They will be challenged at a great distance from our shores. The U.S. must retain the ability to project military force to critical regions of the world to protect these interests. This capability will deter potential adversaries, support the favorable resolution of crises, demonstrate the Nation's commitment to allies and friends abroad, help carry on the fight against the scourge of drugs and terrorism, and maintain access to the oceans which are the commercial highways essential to our economic system.

National Security Overview

Unlike our national interests, which have remained relatively constant for many years, the world environment is in flux. We face an era of dramatic social and economic challenge. The population ratio between the industrialized and developing nations has shifted, and will continue to shift toward the lesser developed countries. By the year 2000, four fifths of the world's population will live in these countries. More and more of this population growth is centered in cities within a few miles of the world's oceans and seas.

Economic developments indicate a similar change in focus. Increasingly, our economic opportunity and required resources are found in the western Pacific. The Pacific economies provide the majority of our imports. By the year 2000, trade with Pacific partners will more than double our gross trade with our traditional European allies. In both political and economic terms we will become increasingly tied to our new trading partners. We will be required to match these new alliance relationships with the ability to protect our interests and those of our regional allies. Our focus should also incorporate our allies of the future in Latin America.

Given that our industrial base in the 21st century is going to be dramatically different than the past half century, this country will rely upon its maritime power to ensure its access to these markets and resources to assure our own economic security.

Technology plays a major role in the changing world security environment. Every year the weapons of war become more destructive, accurate, transportable, numerous, and available. Qualitative differences between the military capabilities of the traditional powers and the Third World are steadily diminishing. The proliferation of mines, anti-aircraft arms, and chemical weapons in the Iran-Iraq War demonstrates the enhanced lethality of future conflict.

Nationalism will continue to have a profound effect on U.S. interests, including increased risk to U.S. citizens and property overseas, and reduced opportunities for overseas basing. Our national military strategy has been dependent on the availability of foreign bases for forward defense. A potential U.S. response is an increased dependence on forward afloat naval forces and **sea-based expeditionary** forces able to be rapidly moved to an area of crisis.

Terrorism and the international narcotics trade will be major national security issues in this decade. U.S. military forces may have to respond in a variety of ways to protect national interests at home or abroad. These may range from providing security for persons and property to conducting retaliatory strikes against sponsors of terrorism. The role of U.S. military forces in the war on drugs will continue to expand.

This Nation will continue to rely upon its alliance with our NATO partners. We will continue to maintain links and fulfill commitments to our traditional European allies, while recognizing the emerging challenges in other regions that will place great demands on our defense resources. This diverse variety of requirements will require strategies and forces heavily based on versatile, highly trained, and well-equipped, power projection forces.

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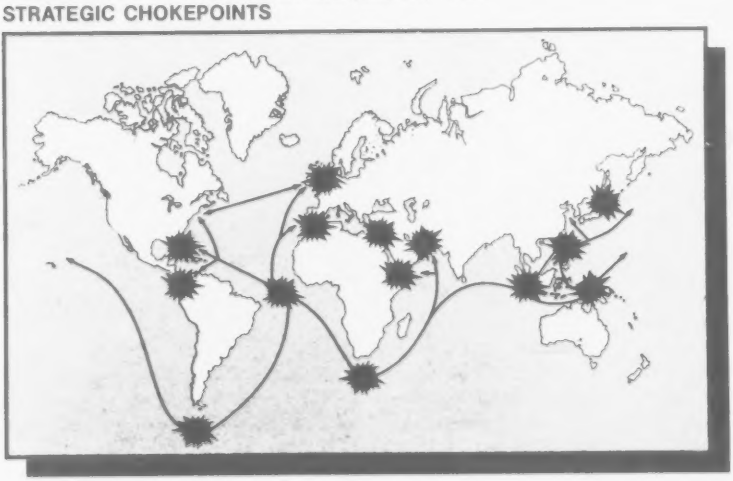
Naval Forces

Naval forces are particularly suited for the commitments and challenges of the next century. Naval forces are America's "sword in a sheath," placed off shore in view of a potential adversary, they can influence the calculations of those who threaten our interests without having to commit U.S. forces to combat. **Naval forces are a visible and tangible representation of America's resolve in a crisis.** Our naval forces provide maximum flexibility by influencing a crisis diplomatically or militarily. They can be deployed, reconstituted, or withdrawn as the vagaries of the situation demand.

Nearly all of the conflicts in the past 40 years have occurred in the Third World, most with little or no warning. This trend is virtually certain to continue. Instability in the developing countries can lead to regional crises with major international consequences. Naval forces are traditionally employed in many of these conflicts. They are usually the **"force of choice"** since they are already nearby due to their forward deployed status, their ability to loiter in close proximity for long periods without infringing upon the sovereignty of another country, and their ability to independently sustain for long periods. The utility of naval forces has been demonstrated time and time again. A recent study of U.S. responses in crisis situations reported that naval forces were employed **80 percent of the time** when U.S. forces were called to the conflict.

Naval forces continue to become more and more integrated as a Total Force. This consideration is driven by national strategy which in the face of an apparently reduced threat, limited resources, and increased warning time, causes us to rely more upon the Reserve component. A Total Force approach is critical to the achievement of national military objectives in the current environment. Given the increased warning time available against the major threat we have faced for the past four decades, an increased dependence on maritime forces will naturally result. These forces provide the ability to influence action prior to hostilities and provide the means to rapidly deploy to reinforce allies and friends. Credible maritime power means a naval force that can **deploy immediately, stay for as long as necessary, and fight at whatever level of conflict the situation demands**, and win. U.S. naval forces meet these criteria.

FIGURE 1-1
SEA LINES OF COMMUNICATIONS (SLOCs) AND STRATEGIC CHOKEPOINTS



Role of the Marine Corps in National Security

Based upon the initial difficulties in responding with immediately deployable combat power to aggression in Korea, the Congress codified the minimum structure and roles of the Marine Corps in Title 10 U.S.C. 5063 in 1952. The intent of the Congress was to establish and maintain a balanced combined arms capability for the Nation. Subsequent reforms to public law have maintained this unique status and institutionalized the Corps as the country's **force-in-readiness**. The need for such a capability is particularly acute in the current and projected security environment.

Over the past decade, in response to the forecasted world security environment, the Marine Corps initiated a series of organizational, doctrinal, and training enhancements. **These efforts have maintained the Marine Corps preeminence as a naval expeditionary force.** The focus of these efforts have been sharpened in the past few years. The changes were adopted to provide options for the myriad challenges that face the Nation. The future places a premium on forces capable of adapting to certain geopolitical and economic situations. Multi-mission capable forces, flexibly sized to the mission, possessing the characteristics of speed and mobility have the highest probability of future employment. Changes in the international security situation necessitate that we be prepared for challenges across the conflict spectrum, but particularly in the low-to-mid intensity range.

The diversity of prospective missions and crises is virtually unlimited. This range of missions and tasks impacts the organization, training, and equipment of our mobile naval forces. No one combination of firepower and mobility is uniformly advantageous in all situations. That is why the Marine Corps does not provide specialized units that are only prepared for a single contingency. MAGTFs, through task organization and diversified training for special operations and low-intensity conflict, can provide Fleet and Unified CINCs versatility and balance in a single force. These MAGTFs are not merely general purpose forces. MAGTFs combine air, ground, and logistics forces under a single commander. They may be weighted toward ground, air, or logistics action, and they can be any size appropriate for the mission. This provides the combatant CINCs a flexible, self-contained force, ideal for independent operations or as part of a joint task force. The major CINCs have consistently expressed their support to maintain a strong naval expeditionary capability.

The Navy-Marine Corps team has adapted for the future by structuring, t[illegible]ning, and equipping to enhance its ability to project power ashore where needed, as needed, and when needed. Continued investment in sea-based forces is appropriate given the geographic, political and technological realities facing us. Maintaining flexible, sea-based, expeditionary forces places us on the best possible footing for the challenges of the 21st century. Naval expeditionary forces, will continue to be the most responsive and versatile crisis response option. As the world political and economic picture evolves, the capability of projecting naval expeditionary forces over great distances and keeping them there will continue to increase in value.

This Nation has carefully developed and nurtured a credible naval expeditionary capability that represents a tremendous national asset. **These forces are in being today.** Were they not, the Nation would have to expend precious resources in order to adequately prepare for the coming challenges of the 21st century. Our national leadership has had the foresight to create a flexible military force to maintain a credible deterrent against major threats while providing for a wide variety of peacetime contingencies. These forces provide not only an expeditionary capability but a true and robust forcible entry capability. These forces are fully integrated into all CINCs requirements.

Marines Preparing for the 21st Century

This Nation retains responsibilities and obligations as one of the world's superpowers. Dramatic shifts and adjustments are taking place around the globe. A reshaping of U.S. military power will naturaly follow. Unlikely to change however, are a multitude of threats to our national interests and to friendly and allied countries. U.S. interests often affected by these problems must be protected. Today, as in the past, Marine forces assigned to the Unified Commanders shall frequently be the organization best suited for the task of restoring order or influencing the outcome of the confrontation. This is because Marines are:

- Trained in combined arms warfare and prepared to fight in any climate and terrain under any condition of intensity.
- Deployable by either anphibious shipping, maritime prepositioning, strategic airlift or combination thereof for crisis response.
- Organized as **reservoirs of combined arms** to provide forces for peacetime contingencies such as security teams, mobile training teams, small independent action forces (SIAFs) as well as sea-based, assault-capable forces.
- Structured and equipped to act as the nucleus of a joint or combined task force.
- Capable, in partnership with the Navy, of tremendous staying power due to substantial organic sustainability (60 days of supply).
- Capable of loitering at sea indefinitely and maintaining that afloat posture via sea-basing until action ashore is required.

The Marines are an **in existence** crisis response force, strategically mobile, tactically flexible, and **logistically sustainable.** Marine Air-Ground Task Forces (referred to as MAGTFs) are capable of immediate response, able to project and demonstrate the presence of naval power to distant points. **This naval power and influence can be projected and sustained deep inland against potential adversaries or in support of developing nations.** As the international security picture evolves in the next few years, the capability to project naval forces over great distances and keep them there is an attribute that must endure.

In anticipation of this requirement, the Marine Corps has implemented a series of initiatives to maintain our aggregate utility across the spectrum of conflict. Building upon a solid and carefully designed foundation, the Marine Corps is sharpening its focus and accelerating its preparation for the next century. This focus remains consistent with the high expectations of excellence and preparedness that the American people have of their Marines. With the foregoing in mind, the Marine Corps of the 21st century is presented in the remainder of this chapter.

How the Marines are Organized

As an expeditionary, combined arms, force-in-readiness the Marine Corps must provide forces that can be rapidly deployed for contingency missions in support of national security objectives. The Marine Corps primary mission is to provide Fleet Marine Forces of **combined arms**, including integrated aviation and logistical components, for service with the U.S. Navy fleet as part of a naval **expeditionary** force. This mission is consistent with the United States position as a maritime nation with worldwide interests. It supports a national strategy that is global in nature with assets that are equally global and responsive. These two dimensions -- the expeditionary focus and the combined arms concept -- make the Marine Corps a unique military organization.

The MAGTF Concept

The Marine Corps organization for combat exploits the synergy inherent in closely integrated air and ground operations. Based on the combined arms concept, Marine Corps doctrine provides that Marines will be employed as integrated Marine Air-Ground Task Forces. MAGTFs are tailored, i.e., task organized, to accomplish specific missions. A MAGTF is most effective in battle when employed as a strategically mobile, combined arms, air-ground logistics combat force all under a single commander. The commander must have the necessary command and control assets to direct this force.

FIGURE 1-2

MAGTF CHARACTERISTICS CHART

- Maritime Expeditionary Forces
- Special Operations Capable
- Configured for most likely threats
- May be quickly reinforced or withdrawn
- Strategically mobile
- Capable of forcible entry
- Trained for all regions
- Employs combined arms and maneuver
- Interoperable with joint and allied forces
- Sustainable

The Marine Corps has developed MAGTFs that are trained and prepared to be deployed to any part of the world on short notice. A MAGTF will include four major components:

- Command Element (CE)
- Ground Combat Element (GCE)
- Aviation Combat Element (ACE)
- Combat Service Support Element (CSSE)

There are four basic types of MAGTFs that may be formed in support of national strategy and combatant CINC crisis response requirements. They range in size from very powerful Marine Expeditionary Forces (MEFs) capable of prosecuting operational campaigns against the most capable potential adversarial threat, through rapidly deployable and employable Marine Expeditionary Brigades and routinely forward-deployed Marine Expeditionary Units (MEUs) to small special purpose forces formed for specific missions or contingencies.

FIGURE 1-3

MAGTF ORGANIZATIONS

Marine Expeditionary Force (MEF):

A MEF is the largest (30,000-60,000 Marines and Sailors) and most powerful of the MAGTFs. It may range in size from less than one to multiple infantry divisions and aircraft wings, together with a force service support group. It is normally commanded by a Lieutenant General. It is capable of conducting a wide range of expeditionary and amphibious operations, and with its 60 days of support, is capable of sustained operations ashore in any geographic environment. Each MEF has the capability to task organize special operations capable forces to execute specific missions supporting combatant CINC contingencies.

Marine Expeditionary Brigade (MEB):

The MEB, with 4,000-18,000 Marines and Sailors, is normally built around a reinforced infantry regiment, an aircraft group, and a brigade service support group. It is commanded by a general officer and is capable of rapid deployment and employment in expeditionary, amphibious, and reinforcement roles as required. MEBs may be forward deployed on amphibious shipping, deployed by strategic or tactical airlift to fall in on prepositioned equipment and sustainment, or deployed by air as required. As with the MEF, the MEB has special operations capabilities derived from the enhanced training and equipment possessed by its subordinate units. The MEB deploys with up to 30 days of sustainment.

Marine Expeditionary Unit (MEU):

The MEU is a MAGTF of 1,000-4,000 Marines and Sailors, normally comprised of a reinforced battalion, a helicopter squadron reinforced with deployed and CONUS on-call fixed-wing assets, and a service support group. The MEU is commanded by a colonel and is routinely forward-deployed as the immediately responsive, on-scene, sea-based Marine component of the Fleet Commander's amphibious and power projection forces. The MEU is task organized, trained, and equipped to conduct a wide variety of conventional and specialized operations. Foremost is its capability to conduct long-range amphibious raids from over-the-horizon, without electronic emissions, during periods of darkness, and under adverse weather or sea conditions. For sustained operations ashore, the MEU may serve as the forward element of a MEB. The MEU can also deploy on short notice by a mix of tactical and strategic airlift for contingencies in support of fleet and combatant CINCs. MEUs deployed in amphibious shipping normally carry 15 days of sustainment.

Special Purpose Forces:

These forces are small, task organized MAGTFs configured to accomplish missions for which the MEF, MEB, and MEU are not appropriate. They can be configured, trained, and equipped to conduct a wide variety of conventional and other operations. Recent special purpose forces have been employed in Panama, the Persian Gulf, and on the southwest border of the U.S. in counternarcotics operations. They can be deployed by a variety of means, to include amphibious or commercial ships, tactical or strategic airlift, or by organic Marine Corps aviation assets. These forces are normally composed of Marines highly trained in day/night operations to include insert/extract, raid, and strike operations. They may possess extensive surveillance and reconnaissance capabilities to include Unmanned Aerial Vehicles, radio reconnaissance, and counterintelligence assets, as required. These forces can be employed in a variety of missions to include **Mobile Training Teams, security assistance operations**, and **Small Independent Action Forces**.

Special Operations Capabilities

All MAGTFs have inherent special operations capabilities. For example, the forward deployed MEUs, after a demanding and comprehensive training and certification process, are formally designated special operations capable. Their constantly expanding capabilities are the end product of intense and realistic specialized training conducted in coordination with the Amphibious Ready Group and selective procurement of special equipment. Skills acquired through training and the use of specialized equipment are complemented by an operational philosophy which emphasizes rapid execution under time-compressed planning. At a minimum, each MAGTF is expected to commence mission execution signified by launch of surface means or aircraft within six hours of receipt of a warning or alert order.

Prepositioning

Other significant MAGTF capabilities are found in the maritime and geographic prepositioning programs. The Maritime Prepositioning Forces (MPF) program represents a major leap forward in strategic mobility. It gives Marine expeditionary forces assigned to the Unified CINCs a new dimension in mobility, readiness, and global responsiveness. The MPF program involves a total of 13 ships, organized in three squadrons. The first squadron (MPS-1) deployed in 1984, and operates in the Eastern Atlantic. MPS-2 deployed to Diego Garcia during December, 1985. The final squadron, MPS-3, was activated and deployed to the Western Pacific in 1986.

The maritime prepositioning concept reduces Marine deployment response time by prepositioning the bulk of the equipment for a MEB aboard specially designed ships placed in strategic locations throughout the world. Each vessel is loaded with tanks, artillery, vehicles, supplies, food, fuel and water to support a 16,500-man brigade for up to 30 days. A MEB can be quickly airlifted with the use of only **250 C-141 sorties** from the U.S. to an objective area to marry-up with its pre-positioned equipment at a secure site. Having this equipment already embarked aboard ship and forward deployed during crisis situations greatly reduces the response times of our MEBs to major crisis areas from weeks to days.

MAGTF **closure times will be reduced to enhance the responsiveness of Marine Corps expeditionary forces in crisis response** and during the initial phases of a conflict. FMF commanders are revising MPF load plans, deployment and employment options. This reexamination incorporates today's changing political and military circumstances in order to maximize the potent capabilities of the MAGTF concept in a low intensity conflict (LIC) environment. MPS load plans will be incrementally reconfigured to support the immediate use of a single MPS ship or in pairs in support of a variety of contingencies for MAGTF employment in the most likely regions for future conflict. The use of a single MPS ship or a pair in closure packages will provide the warfighting CINCs an inherently flexible and sustainable contingency MAGTF for regional crisis response.

Another program that enhances responsiveness is the geographic or Norway prepositioning program. This program also provides the supplies and equipment for a Marine air-lifted MEB. The majority of the brigade's materiel is stored in protected sites in Norway. Like the maritime prepositioning program, the Norway air landed MEB enhances both responsiveness and flexibility. Both the maritime and Norway programs offer options to our national leadership and the CINCs by enabling the rapid movement of forces to a designated area prior to hostilities, thus transmitting a strong signal of national resolve without the risk of initiating direct military involvement. Both MPF and the Norway positioning program are fully operational. Further details on the prepositioning program are provided in chapter 5.

Marine Corps Organization

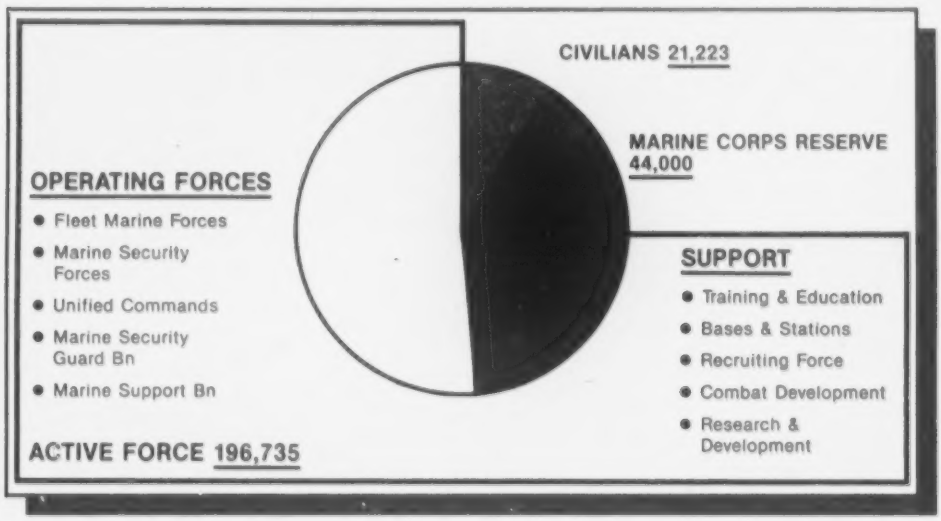
The overall organization of the Marine Corps divides into two broad categories: Operating Forces and the Supporting Establishment. The Operating Forces, considered the heart of the Marine Corps, further constitute the fighting power allocated to CINCs. Major elements include the Fleet Marine Forces, Marine Corps Security Forces at naval installations and shipboard detachments, and the Marine Security Guard Battalion with its detachments at embassies and consulates around the globe. **Sixty-eight percent of all active duty Marines are assigned to the operating forces**, an extremely efficient "tooth-to-tail ratio."

The Supporting Establishment includes Headquarters Marine Corps, various bases and air stations, training and formal school activities, the recruiting force, the Marine Corps Combat Development Command (MCCDC) and Marine Corps Research, Development and Acquisition Command (MCRDAC). The Supporting Establishment is lean yet vital to the overall day-to-day activities of the Marine Corps.

Both the Operating Forces and Supporting Establishment are manned by young men and women of the highest caliber. Figure 1-4 depicts the entire Marine Corps Total Force Family including the Selected Marine Corps Reserves and our civilian personnel resources.

FIGURE 1-4

MARINE CORPS TOTAL FORCE — FY-90 AUTHORIZATIONS



Operating Forces made available to the CINCs are provided from Fleet Marine Force, Atlantic (FMFLant) and Fleet Marine Force, Pacific (FMFPac). Both of these command elements are closely aligned with their respective Fleet CINC.

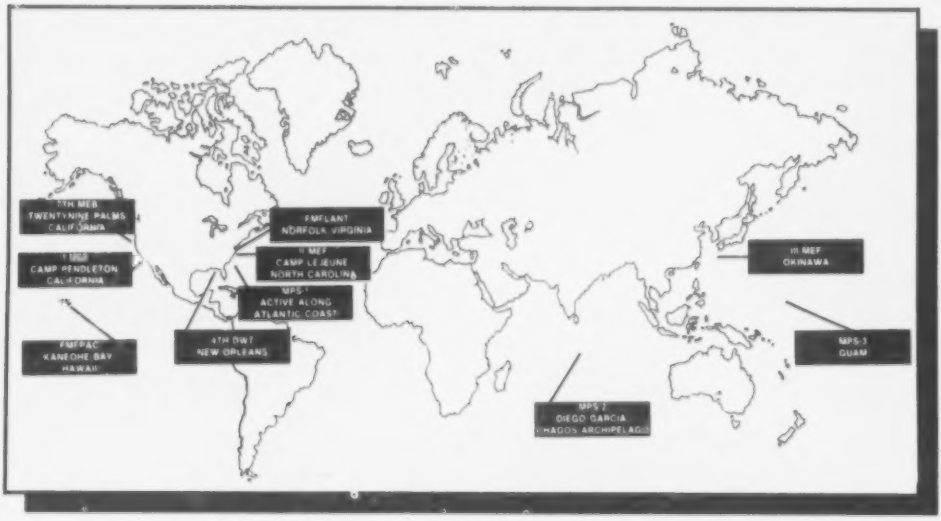
FMFLant is located in Norfolk, VA. The major combat force in FMFLant is II Marine Expeditionary Force or II MEF, located in the Carolinas. II MEF forces train at sites throughout the U.S. and overseas. **II MEF continually maintains a forward deployed MEU(SOC) in the Mediterranean, highly trained and prepared for contingencies.**

The headquarters of FMFPac is sited at Camp Smith in Hawaii. This Force is composed of two MEF's. One MEF is based in California with operational linkage for employment to Unified CINCs. For example, I MEF provides a forward-deployed MEU(SOC) for service as an element of the Seventh Fleet. The other major combat force in FMFPac is III MEF which is forward based in the Pacific. Approximately two-thirds of the force is found in Japan, the remainder in Hawaii. Again, these forces are available for employment by the designated CINC.

In addition to our active forces, force expansion during general war is made possible by the activation of the Marine Corps Reserve. **The Marine Corps Reserve maintains the same high standards of performance and readiness as the active forces**. The Marine Corps Reserve consists of the 4th Marine Division (reinforced) and the 4th Marine Aircraft Wing with their headquarters in New Orleans, LA. The 4th FSSG in Atlanta, GA provides combat service support to the 4th Division/Wing team. Units of these commands are located in 194 training centers in 46 States, Puerto Rico and the District of Columbia.

FIGURE 1-5

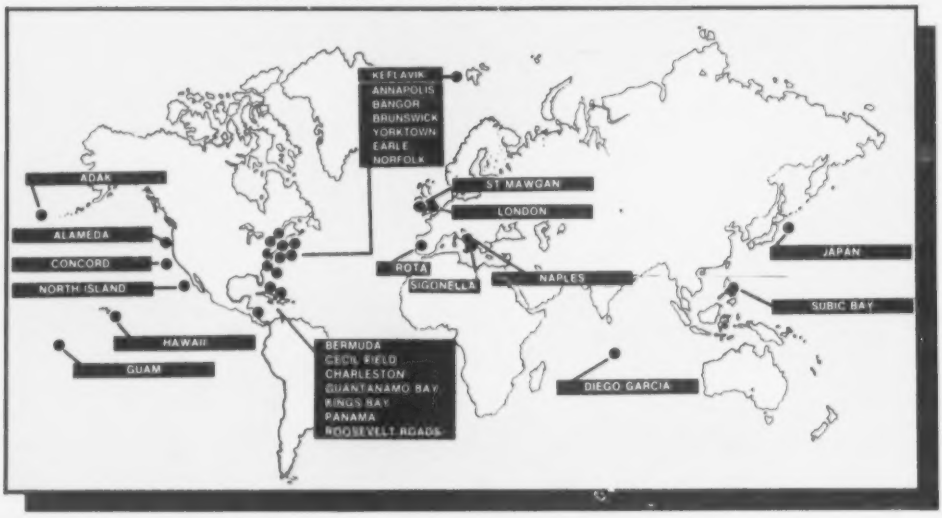
LOCATIONS OF MAJOR MARINE CORPS OPERATING FORCES



Marine Corps Security Forces (MCSFs) protect 28 key locations throughout the world. In addition, separate detachments provide specialized security capabilities aboard 24 major naval combatants and flagships throughout the fleets. Highly trained Marine security specialists serve as Deputy Security Officers and anti-terrorism trainers at 89 naval installations around the globe. MCSF Battalion command elements at Norfolk, Virginia, and Mare Island, California, oversee security force operations. They provide extensive specialized instruction and training facilities to prepare these rapidly deployable, highly skilled Marine Infantrymen to carry out security and anti-terrorism missions worldwide. Each MCSF Battalion contains a

Fleet Anti-terrorism Security Team (FAST) Company. FAST Marines rapidly deploy to reinforce high threat locations, provide security for nuclear fueling operations, and respond to myriad other crises and contingency situations. To effectively carry out these demanding missions, FAST units train exhaustively in a full range of Close Quarter Battle Techniques. The mettle of our MCSF Marines has been tested. The reinforcement of our embassy in the Philippines during the coup attempt and in both security and combat operations in Panama are but two recent examples.

FIGURE 1-6
MARINE CORPS SECURITY FORCE LOCATIONS



Warfighting Enhancements

The current capabilities of the Marine Corps are impressive, but being complacent can be dangerous in today's rapidly changing security environment. The Marine Corps strives to tailor and fine tune our Total Force for projected requirements. The central aim is to improve and tailor our current force for its expeditionary mission. While the Total Force will retain the capability to field powerful MEFs to fulfill the CINC's warfighting plans, we have shaped and enhanced our active Fleet Marine Force to maintain a rapidly deployable and capable expeditionary force. This force is responsive to the entire range of threat scenarios while retaining the ability to respond rapidly to global war if it becomes necessary.

While fiscal constraints have forced the cadre of three infantry battalions and a lower overall manning level than desired, we have been able to develop an optimal and flexible infantry battalion structure as the building block for all further force structure and manpower initiatives. **The infantry battalion has been enhanced. Selective additions improved its mobility, firepower, and sustainability. A fourth letter company has been added to increase the flexibility and reconnaissance ability of our MAGTFs. These adjustments have greatly improved the ability of our expeditionary forces to control and influence larger areas of operation and employ a number of tried and true Marine tactics that are relevant to today's low- to mid-intensity threat environment.**

Combat service support units have been tailored to fulfill support requirements of the adjusted ground combat forces. Such streamlining actions have resulted in the transfer of selected heavy general support into the Reserves. This has permitted the application of limited active manpower resources to higher priority MAGTF needs and to meet end strength reductions dictated by budget constraints. The precise realignment of the CSS element will not affect the balance in the FMF. Our MAGTF's retain the ability to effectively conduct the fight.

Light armored units have been improved by the addition of 168 scout-infantrymen and a fourth maneuver company to each Light Armored Infantry Battalion. Future plans seek to add an assault gun variant (LAV-105) to the battalion. The LAV-105 will satisfy a lethality and mobility requirement.

The command element of each MEF was enhanced by the activation of a Surveillance, Reconnaissance, and Intelligence (SRI) Group. Now MAGTF commanders will have intelligence planning, collection and dissemination assets available in an integrated unit. Included in the SRI Group is a radio intercept capability, a deep reconnaissance capability, imagery interpretation and linguistic experts, communications, a sensor employment unit, and remotely piloted vehicles. The ability to integrate the entire range of intelligence acquisition and processing functions is critical to success on the modern battlefield. These changes provide the warfighting commander the means to quickly acquire and analyze intelligence data from multiple sources essential for success on the battlefield.

Aviation capabilities have also been subjected to study and enhancement. Marine Wing Support Squadrons have been resized and two former Marine Aircraft Group headquarters have been consolidated into one. The first AV-8B Harrier Night Attack squadron was activated during September 1989. Within the Marine Corps Reserve, introduction of the new F/A-18 "Hornet" has begun.

The foregoing initiatives preserve the ability of the Fleet Marine Force to fulfill all immediate general war commitments without mobilizing Reserve forces. The ability to task organize MAGTFs provides the CINCs with a flexibility that is key to success in today's uncertain world. Special operations capabilities within the MAGTF will continue to be expanded. Interoperability, including the capability for a MAGTF to serve as the nucleus of a joint task force, will be retained and enhanced. Finally, speed of employment will be further improved through load adjustments to the MPF and the continued judicious use of strategic projection assets.

Training/Operational Initiatives

The Marine Corps will place increased emphasis on wargaming as perhaps the most efficient, economical, and viable means available to maintain and improve combat readiness. With the prospect of large-scale exercises being reduced in an era of overall diminished resources, wargaming will play a vital role in challenging operational leaders to think about all aspects of future warfare. Wargaming can provide valuable benefits when examining the potential employment of MAGTFs around the globe. Such benefits include providing an environment for decision-making, encouraging risk-taking and innovative thinking, providing insight into issues, enhancing the training and education process, and reinforcing principles of strategy, campaign planning and the operational art.

The newly established Marine Corps Wargaming and Assessment Center (MCWAC) is responsible for wargaming policy and direction for the Corps. This center is pursuing three functional tracks - manual, seminar, and automated wargaming systems. The latter providing the format for conducting multiple simulations in order to assess future options for the Corps. MCWAC will develop each of these tracks thereby providing the Fleet Marine Force with the most meaningful war game product and experience possible.

In addition to wargaming, MCWAC provides support in the form of simulation, modeling and assessment for the Operating Forces and Supporting Establishment. This involves the application of computer models, automated data bases, and war games to produce analyses of force structure, doctrine, and equipment alternatives. This type of analysis and data, coupled with professional military judgment, will support the development and evaluation of options to increase the overall warfighting capability of the Marine Corps. MCWAC has been aggressively exploring a variety of computer support applications, has continued to oversee wargaming programs and resources, and has sponsored a series of general officer-level war games and seminars that have included representation from Government, the other Services, and academia. Harnessing the training and assessment value from the present array of sophisticated gaming and modeling techniques will greatly improve the education and development of Marine leaders of today and tomorrow.

Another initiative is the activation of the Marine Corps Intelligence Center, at Quantico, VA. Like the Wargaming and Assessment Center, the Intelligence Center exists to support the operational commander in the Fleet Marine Force. The Center is charged with developing a baseline Marine Corps capability for mid- and long-term intelligence. This capability, previously lacking, is vital to Service doctrine, force structure, training, materiel acquisition plans and programming, and for contingency planning for expeditionary missions. This center has a critical role of ensuring that the collection and production activities of others is exploited and tailored to Marine Corps mission needs. It will be a model fusion center for all-source intelligence focusing on low- and mid-intensity conflict without duplicating the effort of others.

Doctrine

Doctrinal publications reveal the MAGTF to be a force that employs combined arms, mobility, and decisive tactics. The diversity of threats and conflict environments requires a broad doctrine that encompasses the range of situations that the MAGTF commander faces. Mission success is the product of understanding the nature and the theory of war. This common understanding, recently published in a Fleet Marine Force Manual titled *Warfighting* (FMFM-1), is the guiding force behind our preparation for war.

Although all warfare uses both fire and movement, these components provide the foundation for two distinct styles of warfare: an attrition style, based on firepower, and a maneuver style, based on movement. Warfare by attrition seeks victory through the cumulative destruction of the enemy's materiel assets by superior firepower. This results in a methodical approach to war. Victory becomes more dependent upon sheer mass of men and equipment than military skill and competence.

In contrast, warfare by maneuver stems from a desire to circumvent a problem and attack it from a position of advantage rather than meet it straight on. Successful maneuver depends on the ability to identify and exploit enemy weakness, not simply on the expenditure of superior might. This doctrine is appropriate given our mission as a force-in-readiness. An expeditionary force must be prepared to win quickly, with minimal casualties and limited external support, against a physically superior foe.

The Marine Corps concept for winning under these conditions is a warfighting doctrine based on rapid, flexible, and opportunistic maneuver. **Maneuver warfare** is a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope. Maneuver warfare is a way of thinking in and about war that shapes our every action in peacetime and in conflict. In short, maneuver warfare is a philosophy for generating the greatest decisive effect at the least possible cost to ourselves, a philosophy for "fighting smart."

1-15

Training and Education

Training is the key to combat effectiveness and therefore is the focus of effort in a peacetime military. Basic individual skills are an essential foundation for combat effectiveness and receive heavy emphasis in the Marine Corps. All Marines, **regardless of occupational specialty**, are trained in basic combat skills.

Our training programs reflect practical, challenging, and progressive goals beginning with individual and small-unit skills and culminating in a fully combined-arms MAGTF operating in a Joint environment. Exercises are designed to train units and individuals in tactics under **simulated combat conditions**. Exercises approximate the conditions of battle as nearly as possible; that is, they are designed to introduce friction in the form of uncertainty, stress, disorder, and opposing wills. This last characteristic is most important: only in opposed, free-play exercises can we practice the art of war.

Marine Battle Skills Training

We have changed the direction and content of our training, particularly at entry level, to make it more combat oriented. The next war will have no front or rear areas. All Marines must be proficient in combat techniques. Our response to the requirement that Marines be able to defend themselves and effectively contribute to their units' defense has been an initiative known as Marine Battle Skills Training (MBST). MBST is a comprehensive training process, designed to develop and sustain basic combat skills throughout a Marine's career; focused on extensive firing of individual and crew-served weapons, basic knowledge of field skills, rugged battle drills, and combat oriented physical conditioning. A pragmatic program, MBST is organized into four progressive, mutually supporting stages that cover the spectrum of combat training as displayed in Figure 1-7:

1-16

FIGURE 1-7

MARINE BATTLE SKILLS TRAINING PROGRAM

Stage I *Basic Warrior Training (BWT)*	Implemented at both recruit depots in February 1988, BWT increased the amount of training in aggressive, field-oriented combat tasks to the recruit training curriculum. While recruit training still provides its traditional transformation of civilians into Marines, BWT focuses on individual tasks, combat skills, small arms, and marksmanship.
Stage II *Marine Combat Training (MCT)*	MCT is a 28-day training package at the Schools of Infantry at Camp Lejeune and Camp Pendleton. MCT was fully implemented in June 1989. It focuses on collective combat tasks, offensive combat skills, and employment of crew-served weapons. MCT is conducted in an austere, field environment, building upon skills learned during BWT, and giving our Marines the baseline infantry skills required on today's battlefield.
Stage III *Marine Leader Training (MLT)*	MLT encompasses 17 locally-established NCO schools and 3 SNCO academies. This part of the program provides noncombat-arms NCO's and SNCO's with the skills they need to lead Marines in battle. The SNCO academies have implemented the MLT program, and the NCO schools are in the process of incorporating it. We have developed a common core curriculum emphasizing combat skills without shortchanging professional military education.
Stage IV *Unit Sustainment Training (UST)*	Still in the development stage, UST is essential to the long-range success of the MBST effort, and will translate the earlier parts of the program into higher unit-level combat readiness. UST will mold our existing Essential Subjects Training, the Marine Corps Combat Readiness Evaluation System, and specific unit/mission requirements into a cohesive whole. Marines will have to achieve specific levels of proficiency based upon their unit's mission and probability of combat employment.

In conjunction with MBST the Marine Corps has made major improvements in combat marksmanship, close combat, combat water survival, and physical training. The combat marksmanship program translates basic shooting ability acquired on the traditional Known Distance range into an effective shooting ability in offensive and defensive operations. Close combat training provides our Marines with basic and advanced skills in bayonet, knife, and unarmed fighting which builds confidence and enhances survivability. The combat water survival program has revolutionized the Marine Corps approach to dealing with an integral aspect of the amphibious mission, water obstacles. This program provides all Marines with the techniques and confidence to survive in the water and enables them to maintain the capability to effectively fight after negotiating an obstacle. The Marine Corps focus on physical training has changed from preparing to pass a fitness test to preparing all Marines to meet the rigors of combat. Current physical training emphasizes forced marches, combat conditioning courses, and increased use of obstacle and confidence courses.

All training, either directly or indirectly, must contribute to our success in combat. MBST is a vital warfighting initiative, an investment in the individual Marine, and the **single most important training program** in the Marine Corps today.

Professional Military Education

Professional military education (PME) in the Marine Corps is designed to develop creative, thinking leaders. We have recently re-invigorated our education program. The new program will encompass structured self-study (to include correspondence courses), professional reading, symposia, formal schools, and experiences gained in duty assignments. In contrast to specific specialty training or billet-related skills, our educational program is designed to assist **all** Marines in fulfilling their personal responsibility for achieving operational competence. Our program will enhance the operational proficiency of our leaders and develop a corps of commissioned and noncommissioned officers who better understand the enduring requirements of warfare.

Marine Corps University

The Marine Corps University was activated at Quantico on 1 August 1989 and marks a major step forward in military education. It has cognizance over all Marine schools to include the 17 NCO schools, our SNCO academies, The Basic School, Amphibious Warfare School, and the Command and Staff College. Staffing the University with top notch practitioners of the operational art of war and a first-rate civilian faculty is a major priority.

Plans for the University include a new research and library facility to enhance these educational objectives. The research facility will be a state-of-the-art building that will provide library and research services in support of the University's mission. It will serve as a major repository of historical records, studies and analyses of expeditionary and amphibious warfare. The challenging curricula will focus on the operational art and the use of military history to advance the professional judgment of military leaders. All of our Marines will read about leadership, history and the profession of arms under a new comprehensive and career-long professional reading program we have initiated.

A further initiative undertaken in education involves two new courses slated to begin in FY-90. The **School of Advanced Warfighting** will be offered to selected graduates of the Marine Corps Command and Staff College in preparation for key billets in Joint headquarters and MAGTF command elements. The school will consist of an extensive 9-month course emphasizing the operational art of war and the dynamics of Joint and Combined warfare. The second program, the **Art of War Studies Program**, will be a Top Level School course designed to educate selected Officers on the theory and nature of war across the spectrum of conflict. The school will employ integrated case studies, symposia, observation and research as instructional strategies. Graduates of this selective program will be assigned follow on tours as teachers at the Command and Staff College.

In addition to Officer PME, we are in the process of revitalizing our NCO and SNCO education programs. An initiative to consolidate our 17 NCO schools into seven regional sites is underway. A new Program of Instruction has been developed and implemented that standardizes instruction and incorporates Phase III of the MBST program. We plan to open a fourth SNCO academy at Camp Butler, Okinawa. By 1993, we plan to be able to formally train each newly promoted Staff Sergeant in the Corps. Phase III of MBST has been incorporated into all SNCO Academy courses. Permeating the entire PME program for our enlisted Corps is the structured self study program which consists of the Professional Reading program, selected Marine Corps Institute courses, other service extension courses and selected precursor courses for each resident PME course.

We are currently examining the possiblity of consolidating a number of NCO and SNCO combat and professional skills schools at a single location at Quantico, VA. This plan envisions a multi-school complex housing a broad spectrum of NCO/SNCO training and education functions.

The Corps must be prepared for a fluid and violent environment. We are training for a high-tempo, around the clock, combined arms, maneuver oriented conflict. Our competitive advantage in future conflicts will not rest on superior numbers or the high quality of our weapon systems. Our advantage will be based on our excellence in tactics and the operational art of war. We will stress professional education at all ranks. We will emphasize the development of mental skills and adaptability as well as our traditional physical prowess. Our exercises replicate the chaos and uncertainty of the modern battlefield to prepare Marines to respond to the myriad tasks and missions involved in anticipated contingencies in the developing areas of the world.

Current Operations

The capabilities of Marine forces have been demonstrated in the past several years, most notably in the Persian Gulf, the Philippines, and just recently in Panama. These incidents provide credence to the projected requirement for rapidly deployable, sea-based forces that can quickly stabilize a crisis situation either by their mere presence or by the application of sustainable combat power. The MAGTF is capable of numerous other contingencies short of combat operations. These capabilities have been recently demonstrated in ongoing counter-drug and Latin American initiatives.

In response to national attention towards Latin America, the Marine Corps has focused significant effort on a series of initiatives and programs that support U.S. foreign policy in the area. In concert with DoD and regional CINC programs, we have strengthened our military-to-military contacts; increased the numbers and frequency of mobile training teams to both Central and Latin America, and sought ways to exercise and operate with local Marine Corps recognized under CMC's Sponsorship Program.

Marine commanders have continued efforts to refine their plans and programs to support the bread and butter of the Corps–contingency operations. Preparations for these evolutions include increased emphasis on knowing the language, culture and politics of the region, as well as travel by key commanders and staffs to gain a first-hand comprehensive understanding of the region.

In addition to our traditional roles and missions in support of foreign policy, we have supported numerous other federal programs and agencies in the fight against the twin threats of narco-terrorism and counterinsurgency. Marines have made major contributions in these efforts and have gained valuable experience that enhances our readiness.

An example of this support has been Marine participation in Joint Task Force 6 in the Southwest U.S.. In compliance with the President's National Drug Control Strategy, the Marine Corps is helping to combat the flow of drugs from the Caribbean and across the southern U.S. border. Marine units have been deployed to complement the counter-narcotics actions of law enforcement agencies and cooperating foreign governments. The Marine Corps and the U.S. Border Patrol have begun conducting joint training in selected areas in the Southwest. Training will be conducted in scouting, patrolling, communications, emergency medical treatment, and helicopter operations.

This initiative furthers training objectives while helping to stem the supply of illegal drugs from abroad. This cooperative program provides superb areas for Marine small unit training. Additionally, the Border Patrol is providing reciprocal training that will be of benefit. Marines involved will have no authority to search or arrest civilians. These Marines will be employed per Title 10, U.S. Code, Section 371(b) to consider "the needs of civilian law enforcement officials for information in the planning and execution of military training or operations."

In addition to these peacetime activities, the Marine Corps provided significant support during relief operations after Hurricane Hugo and after the Oakland-San Francisco area earthquake. We were equally responsive in providing a MAGTF, weighted with combat service support assets, for the Alaskan oil spill clean up effort. These are examples of capabilities employed countless times every year.

Conclusion – The Corps in the 21st Century

The Marine Corps is and will continue to be prepared to respond immediately to the Nation's call **whenever** and **wherever** needed. In the last decade the Corps was modernized from the bottom up to prepare for the most likely conflicts of the future. As the Nation enters the 21st Century, your Marine Corps will remain sharply focused on preparing for the most probable conflicts to ensure that the needs of the Nation are met.

Multi-mission capable forces, flexibly sized to the mission, possessing the characteristics of speed and mobility, have the highest probability of future employment. The ability to task organize an integrated air-ground-logistics force appropriate to the situation, is a **current capability** of the U.S. Marines and our partners on the sea, the U.S. Navy. Such a naval force will be responsive, unencumbered by requirements for basing or overflight rights, and inherently capable of providing its own essential logistical support.

This capability is provided at a minimum cost to the taxpayer. Our lean "tooth-to-tail" ratio provides more fighters for each dollar provided. This efficiency will be enhanced where feasible. The Marine Corps will continue to provide a multi-mission capability that serves the needs of the Nation. Even in the austere budget environment, we will convert each and every dollar into credible combat power.

The events of the past few years in El Salvador, Panama, the Philippines, and the Persian Gulf underscore how quickly challenges can emerge and how difficult it is to influence events at a time and place of our choosing. As access to overseas bases becomes more restricted, power projected from the sea **increases** in importance. This capability has been continually refined over the past two years. Maintaining this current capability, even in an era of constrained fiscal resources, provides the Nation with vital alternatives in the form of tested and flexible forces. The very existence of these forces deters potential troublemakers by the ability to respond and win when called into action. Your Navy-Marine Corps team intends to remain prepared to carry out these enduring missions in defense of U.S. interests wherever they may be threatened. We will remain focused on the future to ensure our **aggregate usefulness is second to none.**

2

Manpower and Reserve Affairs

Part I of this chapter provides an overview of the contribution that the Marine Corps active duty military, reserve military, and civilian manpower programs make to our Total Force and to the Nation's defense. Included are manpower levels requested for 1990-1991 and key manpower trends. Part 2 reviews various programs which contribute to readiness by enhancing the quality of life for Marines and their families.

The greatest of our Nation's strategic advantages lies in its ability to control the seas. Our freedom, the economic bounty we enjoy, and our position as a major maritime nation are directly related to our unimpeded ability to utilize the earth's oceans. That strategic advantage has been a major contributor to the maintenance of stability and balance in an uncertain world. Its contribution in the future will be equally vital.

A second key national advantage which must be maintained is one that complements our ability to control the seas: our quality Marines and the Sailors serving at their side. This advantage is resident in the highly trained, highly dedicated men and women who are the heart and soul of the Navy-Marine Corps team. This advantage must be maintained in the future.

The underpinnings for this notable advantage are individual Marines. Quality Marines in both the active and reserve components are vital to the preparedness, versatility, and utility of the Marine Corps to the Nation. Accordingly, the main effort of our manpower programs and activities will continue to be focused on accessing, training, retaining, developing, and safeguarding quality Marines and ensuring the welfare of their families.

To stay in step with the requirement for quality Marines, we must continually search for new ways to preserve and improve the productivity and effectiveness of manpower management tools. Imaginative, flexible, responsive programs are essential to preserve total force quality. The continuing manpower challenge is to design and manage programs which contend aggressively with intensifying recruiting/retention competition, shrinking budgets, and encroachments on quality of life programs. This chapter will discuss in more detail the status of the key factors and programs which impact our total force.

After reading this chapter, one can quickly understand why all equations for success in today's Marine Corps include quality Marines. This publication addresses many program areas that will provide us with superior tools and technology. Without first-rate, bright Marines, the capability manifest in those tools will never be realized, the technology wasted. Marines are forward deployed in all parts of the world serving the nation in a multitude of missions. Our top-flight, quality Marines accomplish these missions with the verve and professionalism that the nation expects from its Marines. Even traditional Marine Corps training and professional development, long regarded as the most arduous, have been made tougher and more exacting. Better trained, forward deployed Marines mean greater preparedness for the nation at a time when great changes are unfolding.

One of the key pillars of the Corps' warfighting philosophy is the importance of the Marine, both as an individual and as a member of the total force. The imperative to access, retain, promote, and safeguard Marines, and their families, is vital to the overall readiness of the Marine Corps. That imperative demands that our quality force be managed with balanced, effective manpower programs.

End Strength

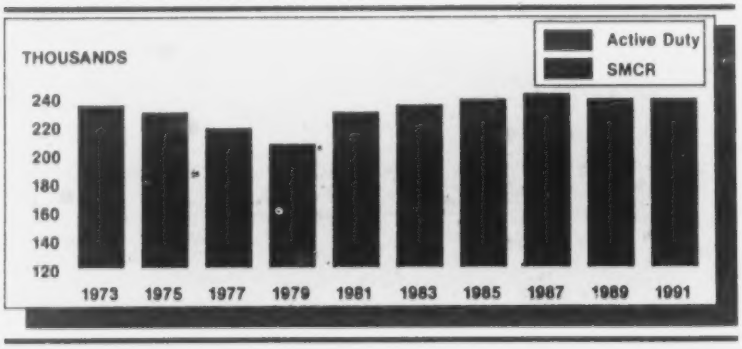
The overall Fleet Marine Force structure is based on the approved national strategy and the Defense Planning Guidance. Force structure changes and direction for enhancements to the FMF are promulgated through the MAGTF Master Plan. The MAGTF Master Plan also includes recommended manning levels that set manpower requirements for the FMF which are translated into the requested end strength requirement. This includes both Active and Reserve forces. The Supporting Establishment Master Plan documents the ancillary tasks required of the Marines who operate the bases, air stations, training installations, recruiting activities, and Reserve support activities.

In recognition of existing fiscal constraints, this planning force is further reduced to the force levels required immediately for war. Such force levels comprise the programmed structure and provide the specific requirements for program development as well as for measuring immediate readiness for war. The FY 90 defense authorization included the resources to support a Marine Corps end strength of 196,735 on active duty and 44,000 in the Selected Marine Corps Reserve (SMCR). This end strength enables the Marine Corps to perform all missions assigned. Our FY 91 request for 196,500 on active duty and 43,900 in the SMCR reflects consideration of the wide range of missions and capabilties that we offer the Nation as well as the current budgetary situation.

A summary of Marine Corps end strength (every other year) over the last 18 years is presented below:

Total Force End Strength

FISCAL YEAR END STRENGTH DATA



Recruiting

The Marine Corps is succeeding in the effort to commission and enlist high quality young Americans who want to serve. Thanks to the committed effort of our recruiting force we again enjoyed unqualified success in FY-89. As officer strengths remain relatively stable, only 1,631 new officers will be required in FY-90 and 1,625 in FY-91. Similarly, about 42,238 new Marines, active and reserve, will need to be enlisted in FY-90 and 42,973 in FY-91.

During FY-89, 1,698 lieutenants and warrant officers were accessed into the Marine Corps. We have maintained the highest levels of quality for all officer accessions. In FY-89, we enlisted over 42,103 young men and women into our active and reserve ranks. Once again, we achieved our number requirements, while accomplishing all quality goals.

We enter FY-90 well prepared to maintain our regular and reserve forces. Over 55 percent of the total enlisted force requirements are in the Delayed Entry Program (DEP). In addition, over 99 percent of those in the DEP are high school graduates or seniors. An increase in accession requirements, coupled with a decrease in Qualified Military Applicants (QMA) will demand a renewed dedication and commitment to ensure our continued success in the 1990's.

Reserve Training and Support of the Active Forces

The international security environment and resource availability require a high quality and highly trained Reserve component to defend freedom here and abroad. The Marine Corps Reserve is prepared for this challenge. The readiness and professionalism of the Marine Reserve has been demonstrated time and time again "in every clime and place." Since its establishment, the Marine Reserve has served as a full and active partner in our Total Force.

The organization of the Selected Marine Corps Reserve (SMCR) as a Division, Wing and Force Service Support Group capable of providing trained units to the Active Force provides unparalleled flexibility in employing Reserve assets. Similarity of Reserve and Active Force structures greatly enhances and streamlines the process of integrating reservists into the Active Force during mobilization.

Aggressive and extensive training programs are conducted within the Marine Corps Reserve for the purpose of enhancing its warfighting capability. Training is directed at both the SMCR and Individual Ready Reserve (IRR) to ensure trained units and individuals are available upon mobilization.

Significant programs included in the FY-90/91 Reserve budget are funding to support the recently activated KC-130T and AH-1J squadrons, 4th LAAD and 4th LAAM anti-air defense units, and Full-Time Support strength increases of 356/100 for FY-90/91, respectively, including instructors to support Marine Battle Skills Training.

Participation in unit exercises is critical to mobilization readiness. These exercises are a culmination of MOS training, professional education, and small unit training conducted throughout the year. Exercise participation (including those overseas) affords Reservists the same type of opportunities as their regular counterparts to develop and maintain combat skills.

The 4th MarDiv, 4th MAW and 4th FSSG maintain an active exercise cycle which each year includes two combined arms exercises (CAXs) and battalion or larger size cold weather, mechanized, amphibious landing, mountain and artillery fire exercises. Emphasis is placed on maximum participation in integrated exercises, i.e., those which involve both Active and Reserve component units, in order to increase the integration and interoperability of both components. A 5 year plan has been developed by the SMCR in conjunction with the force commanders to increase SMCR unit participation in Active component exercises.

During 1989 over 25,000 selected reservists participated in major exercises within CONUS and abroad. Active and Reserve training integration will continue to increase as the Designated Augmentation Unit program is implemented. This program features 16 Reserve infantry companies assigned for mobilization purposes to Active component infantry battalions in order to provide a fourth maneuver company.

The Marine Corps Reserve is a vital dimension of the Corps' Total Force. High morale and the dedication of its Marines are major strengths. Requirements to improve present and future capabilities have produced some crucial objectives, primarily in manpower and equipment. The approach towards achieving these objectives can be summarized in a three-pronged strategy:

- First, to continue with substantial efforts in recruiting, training, and retaining quality Marines.
- Second, the momentum of force modernization must continue. State-of-the-art equipment and modern training facilities are extremely important.
- A final key to enhancing Reserve capabilities is continued emphasis on Active/Reserve integration.

Total Force, with integrated and complementary Active and Reserve contributions, is an established reality in the Marine Corps.

Civilian Manpower Resources

Marine Corps military and civilian manpower resources are integrated to maximize efficiency and avoid duplication of effort. Key billets staffed with civilian personnel are used to meet the requirements of supporting activities to the maximum extent practicable and to permit more effective manning of operational forces with Marines. This enhances training, readiness and sustainability. It also ensures continuity in operations. Our civilian personnel are employed in a wide variety of professional, technical, trade, and administrative functions.

The Marine Corps actively seeks means to use civilian manpower more economically and efficiently. Through the Efficiency Review (ER) program and the Manpower Requirements Determination Program (MRDP) the Marine Corps has begun to satisfy these goals. The FY-90 request for 21,223 and the FY-91 request for 20,869 civilians is essential to continue mission responsibilities while minimizing the requirement for military personnel.

As directed by DoD, we have linked the Efficiency Review, Position Management, and Manpower Requirements Determination Programs. The Position Management Review process will assist in determining the most effective and efficient mix of number of staff and appropriate grade levels developed during the Efficiency Review process. MRDP is the process used by the Marine Corps to establish staffing standards for functions in the Supporting Establishment.

Removal of statutory civilian personnel end-of-year number constraints permitted Marine Corps activities to adjust their work force to workload fluctuations. That flexibility allowed management to increase productive output for urgent, high priority requirements while maintaining scheduled production on routine workload. Without an end-of-year constraint, limited civilian personnel resources can be used more effectively. Temporary employees can be hired to support short-term needs, and to support workload requirements that do not warrant full time permanent employees.

The Marine Corps has been able to fill the majority of its civilian positions without undue difficulties. Problems continue to exist, however, in recruiting personnel to fill clerical positions in some labor markets and professional engineering positions in almost all labor markets.

Executive Order 12615 requires each executive agency to reflect savings to their budget in anticipation of completed Commercial Activities (CA) studies. This order also requires each agency to complete CA studies annually which represent a minimum of 3 percent of their total civilian positions. In compliance with this Order, the Marine Corps is scheduled to complete CA studies in FY-90 which affect 225 civilian positions and 548 military positions.

Manpower readiness and the well-being of our Marines are inseparable. The Marine Corps' high state of manpower readiness can be directly related to its long tradition of caring for its own. The term quality of life is a popular way to express all of those factors that contribute to a quality working and living environment for our Marines and their families. Quality of life programs enhance morale, help retain Marines, and lead to increased personnel and operational readiness.

Marine quality of life efforts feature concerned leadership, realistic training, sound education, discipline (including self-discipline), unit cohesion, a strong sense of taking care of our own, and *esprit de corps.*

The Marine Corps philosophy of leadership fosters a high quality of life and instills values and attitudes that will transcend past each Marine's actual period of enlistment. In the words of General John A. Lejeune, the 13th Commandant of the Marine Corps, **"these men are in the formative period of their lives, and officers owe it to them, to their parents, and to the nation, that when discharged from the service they should be far better men physically, mentally, and morally than when they were enlisted."**

Morale, Welfare, and Recreation

Morale, Welfare and Recreation (MWR) functions will complete consolidation early 1990. This action is a result of the capping of appropriated fund support to MWR and the Congressional requirement to operate more like a commercial private sector operation. The MWR consolidation enables the Marine Corps to plan, manage, and deliver MWR programs in a more responsive, patron-oriented, and cost effective mode.

As of 31 August 1989, the MWR activities had achieved an overall 6.81 percent sales increase, with an increase in the operational net profit by 13.65 percent over the prior year's pre-consolidation period. Profits are recycled for Marine support in morale, welfare and recreation programs.

Family Programs

We continue to expand and improve family programs emphasizing our support for quality of life issues affecting Marines, Sailors and their families. We have more professional, credentialed service providers for all family programs: Family Advocacy, Child Care, Information, and Referral, and Employment Assistance. Wider and more standardized programs and services are being offered to Marines, Sailors and their families, world-wide. The range of responsive family programs serves to enhance readiness and retention. Our recent initiatives include relocation assistance programs, and a program identifying family members with special needs. The Family Service Centers have assisted 285,845 military and family members in the past year. Child Care Centers have served 5,000 children with an additional 2,500 children in the Family Day Care program. The Marine Corps is providing better and more timely services to all Marines whether single, dual career, single parent or married.

Military Construction (MCON)

In FY-90, the Marine Corps Military Construction fund budget is $178.1. A total of $142.0 million is requested for FY-91. The funding reflects a balanced program with projects distributed as follows:

	FY-90	FY-91
Operations and Training	26%	18%
Maintenance	35%	29%
Quality of Life (BEQs, community facilities)	28%	19%
Other (Supply and storage, Admin, Utilities and Real Estate)	11%	34%

In FY-90, maintenance projects represent the largest single category in the MCON program. This category is split between aviation maintenance hangers and ground equipment maintenance shops with most of the dollars invested in the latter.

Emphasis on quality of life projects remains high. In FY-90 this category includes a BEQ, two child development centers and two messhalls. In FY-91 there are two more BEQs, another messhall and a clothing issue building.

Security consciousness in the Marine Corps is a key factor in protecting both Marines and our physical assets. As such, there are four flightline security improvement projects in FY-90. These projects are located at MCAS Pendleton, MCAS Cherry Point, MCAS New River and MCAS Tustin. These projects will improve security for the aircraft assigned to these activities.

Bachelor Enlisted Quarters (BEQs)

The Marine Corps follows the DoD policy of providing suitable accommodations for all bachelor military personnel required to reside aboard the activity for military necessity, and for those personnel who reside aboard the activity when suitable accommodations are not available in the local community.

To implement this policy, we have programmed approximately 18.2 percent of our FY-90/FY-91 MCON budget for BEQs. Upon completion of the FY-89 BEQ construction program, our bachelor housing inventory will include approximately 76,000 adequate enlisted billeting spaces. Displayed below is the planned profile for this program:

	FY-90	FY-91
Number of Adequate Spaces Planned to be Added During Year	1,478	900
Construction/Modernization ($ M's)	37.6	20.1

Family Housing

CMC has management responsibility for approximately 22,000 family housing units and 948 mobile home spaces throughout the United States and Japan. We are continually building new units where deficits exist, particularly in southern California. During the period 1981-1989, 3,371 new family housing units were constructed, under construction or have been approved. The construction program includes 112 housing units at MCB Camp Pendleton in FY-90 and 116 units at MCB Camp Pendleton in FY-91.

The major repair program has tremendously effected our homes by renovating our existing inventory. Whole house rehabilitation for over 8,000 homes has been conducted since FY-81. Plans exist for an additional 5,000 whole house rehabilitations through the FY-95 program. We are embarking on a plan which would renovate all existing housing on a twenty year cycle. We are programming for the renovation of 6,800 units between FY-95 and FY-02. At that time those units which were constructed in the early 1980's would be reaching the age where renovation will be required.

The family housing improvement program also improves quality of life. Through this program, patios, storage areas, sidewalks, driveways and air conditioning are being added to homes.

Based on current known deficits, the new construction has been programed for MCB Camp Pendleton and MCAS, El Toro. The numbers of units planned for each year and the associated new construction costs are identified below. Also displayed is the total currently budgeted for and requested for major repairs and improvement programs.

ACTIVITY	FY-90	FY-91
New units	312	116
Construction Costs ($M's)	40.2	11.8
Major Repair ($M's)	24.0	32.0
Improvements ($M's)	4.6	3.9

Religious Programs

Religious program support to the Marine Corps is provided by the U. S. Navy Chaplain Corps. Chaplains consistently contribute to the quality of life in the Marine Corps by implementing traditional ecclesiastical practices, rites, services, and by developing creative contemporary expressions of religious and spiritual faith. Every command in the Marine Corps relies upon its religious program to provide Marines and their families with required support and services. The command religious program is a vital component of any commander's overall mission as well as part of those capabilities that contribute to the overall combat readiness of the unit.

299 chaplains, supported by 229 Religious Program Specialists and 53 Marine Chaplain Assistants make religious ministry a living reality at 55 chapels throughout the Marine Corps on a daily basis. Additionally, chaplains and their enlisted assistants serve throughout the FMF in every major operational unit in the MAGTF. Their support is provided wherever the Marines are serving: at sea, in the field during training exercises, and during deployments. 235 different chaplains were deployed for an cumulative total of 10,229 days in FY-89. Marine Corps chaplains accounted for almost 300,000 direct ministerial functions to Marines and their dependents worldwide.

During the 1990's, Marines will rely more heavily upon their command religious programs and chaplains to take care of their deepest human needs, to provide understanding and perspective about life's ultimate purpose, and to offer them spiritual comfort and stability through the global changes ahead. The clergymen and women of the Marine Corps are prepared to address the religious, spiritual, moral, and ethical demands of their ministry. The profession of arms generates special needs for Marines and their families. The command religious program provides the unit commander with unique capabilities to address these needs. The stress and pressure of a highly demanding and mobile lifestyle create extraordinary family and inter personal conflicts. In addition to helping Marines and their families deal with the day to day stress of life, the chaplain assists the commander in preparing for the ultimate challenge, the chaos of armed combat.

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Programs for Improved MAGTF Capabilities

This chapter provides background information regarding specific programs being pursued by the Marine Corps to enhance the capabilities of the MAGTF. The chapter is divided into four separate sections that correspond with the four elements of the MAGTF.

The essence of the successful exercise of MAGTF Command, Control and Intelligence (C2I) is the capability to exchange information with senior, adjacent, subordinate, and supporting commands during both Marine Corps unique and Joint/combined operations. MAGTF C2I is achieved through the fielding of C2I deployed under the umbrella concept termed "Marine Tactical Command and Control Systems" (MTACCS). MTACCS will provide the capability to combine desired data from various functional systems into usable information in support of the MAGTF commander and staff.

MTACCS consists of component C2I systems, some of which are now deployed, others well along in development, while others are in concept state of development. These systems are used to support each element and function within the MAGTF. The following systems comprise the MTACCS concept:

- **MAGTF C2**
  Tactical Combat Operations
- **Ground C2**
  FIREMAN and FIREFLEX
- **Aviation C2**
  Marine Air Comand and Control System
- **Combat Service Support C2**
  Marine Integrated Personnel System
  Marine Integrated Logistics System
- **Intelligence**
  Marine Air Ground Intelligence System

This section is composed of several MTACCS programs and complementing communications systems that are currently in development.

Automated Data Processing Support

The Marine Corps stands poised on the verge of a new technological decade. Past projects have positioned us to transition to a new era of productivity. While Marines have become accustomed to automated suport for maintenance, supply, fiscal and manpower; developments are underway to apply automation in new and innovative ways. We have laid the groundwork for that effort and are rapidly moving to make the concept a reality.

Our online user base has expanded from approximately 2,100 to over 5,000 in the last year. The number of potential users (those with personal computers) exceeds 20,000 and our goal is to reach out and give each of them the connectivity and capability to share data with Marines around the globe. The backbone of such connectivity is the worldwide Exectronic Library and Mail System (ELMS), which has been in full service since December 1988. This system allows users around the world to connect electronically to exchange mail, documents, or data.

We are automating the Marine Corps Research Library, at the MCCDC, Quantico, VA, to provide easy access to historical data. We have acquired a world class card catalog system which is functional and will be fully loaded by January 1990. As a follow-on to that project, we intend to acquire Optical Storage for the thousands of documents in the Library and provide online user access. This will allow archived documents to be easily accessed by a Marine in the operating-forces who needs to gain knowledge or learn from the experience of others.

Our goal is not to merely allow users to send notes or messages around the world. We will provide timely communication and interchange of data between commands. We are seeking to leverage existing capabilities against realtime needs to ensure that the data and information required to fight the next conflict is readily available. We will be able to compare Lessons Learned information to Marine Corps Combat Readiness Evaluation System (MCCRES) data. We are endeavoring to provide the Marine on the ground with the best possible support in communications and applications to give him the force multiplier he will need to succeed.

Global Positioning System (GPS)

Description:

The GPS is a spaced-based radio navigation system that will provide precise user location, less than 16 meters spherical error probability (SEP), accurate velocity, and reference time anywhere on or near the earth. Signals are received from four satellites, processed, and displayed to the operator in Military Grid Reference System (MGRS), Universal Transverse Mercator (UTM), or any of 45 datums in latitude and longitude. Small units, vehicles, ships and aircraft will be able to rapidly determine their positions and navigate to their destination during periods of reduced visibility and in featureless terrain. The Marine Corps emphasis is on the development/procurement of the manpack/vehicular variant which will be used by air, ground, and combat service support elements.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO*
Quantity				858

* Acquisition Objective

Why Is It Important?

With the capabilities provided by GPS, units operating outside of the Position Location Reference System (PLRS) network will not have to use manual navigation methods (map/compass). It will greatly enhance the establishment of the PLRS network, and the emplacement of radars, artillery and missiles where accuracy will be improved significantly since reference points will not have to be surveyed manually.

Program Status:

The Navstar GPS is a joint service program with the USAF as lead. The Defense Acquisition Board (DAB) IIIB is scheduled for 4th Quarter FY-90.

Developer/ Manufacturer:

At the present time there are three manufacturers under contract with the GPS Joint Program Office to produce various man-portable receivers. They are Rockwell-Collins, Texas Instruments and Trimble Navigation.

Unit Level Circuit Switch (ULCS)

Description:

ULCS is a family of TRI-TAC digital telephone equipment consisting of AN/TTC-42 (150 line), SB-3865 (30 line), Digital Telephone (TA-954) and multiplexer-combiner that provide for an automatic secure telephone switching capability in the field. The ULCS system will be deployed at all echelons throughout the Marine Corps. The ULCS system will replace current analog switching and terminal equipment including: AN/TTC-38 SB-3082.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
AN/TTC-42	61			61
SB-3865	329	92		425
TA-954	6020	2158	2975	17,004
TD-1234	549	75	66	752

Why Is It Important?

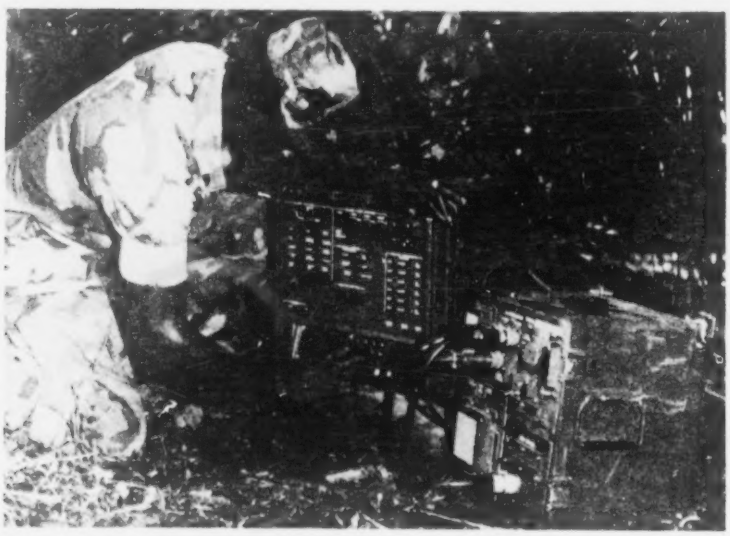
Digital systems provide a host of capabilities including speed and security not available over older analog systems. This program is necessary for Marine Corps tactical units to be interoperable with other Services' systems.

Program Status:

The final options for ULCS AN/TTC-42 have just been signed. SB-3865 will be bought out in '990. 3000 TA-954s were procured from Air Force stock earlier and a production contract was signed in August of 1989. TD-1234 contract was awarded in July 1989.

Developer/ Manufacturer:

AN/TTC-42 & SB-3865 - ITT
TA-954 - SCI Technology Inc.
TD-1234 - Group Technology Inc.



Digital Wideband Transmission System Line-of-Sight Radio Subsystem, AN/MRC-142

Description:

The Line-of-Sight Radio Subsystem will provide line-of-sight trunking between lower level command posts which are in relative close proximity (20-35 miles). The AN/MRC-142 will be used at MEF, Division, Marine Aircraft Wing, and FSSG levels to provide intra-MAGTF linking of digital telephone and data switches. The AN/MRC-142 has a transmission capability of up to two 144, 288, or 576 kbps digital trunk groups and a secure orderwire.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		27	114	499

Why Is It Important?

The current analog AN/MRC-135A radio system is inadequate to support the digital switching systems (ULCS). The capability of these switches will be severely limited without the AN/MRC-142. Additionally, the AN/MRC-135A having been fielded in the late 1960's, is becoming increasingly more difficult to maintain as it exceeds its projected service life.

Program Status:

Two contracts were awarded in October 1987 for engineering development models (EDM). Operational Testing (OT) was conducted and completed during June 1989. Contract awarded in December 1989. Initial Operational Capability (IOC) for this system is scheduled for FY-93.

Developer/ Manufacturer:

Loral Terracom, San Diego, CA.

Troposcatter Radio, AN/TRC-170(V)3

Description:

The troposcatter radio will provide the capability for super high frequency (SHF) transmission and reception of multichannel digital voice and data traffic. It will be used at MEF, Division, Wing, and Force Service Support Group levels, providing intra-MAGTF communications, replacing the AN/TRC-97 and AN/GRC-201 radios. The AN/TRC-170(V)3 provides a significant increase in the capacity of bulk-encrypted voice and data traffic.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		28	19	134

Why Is It Important?

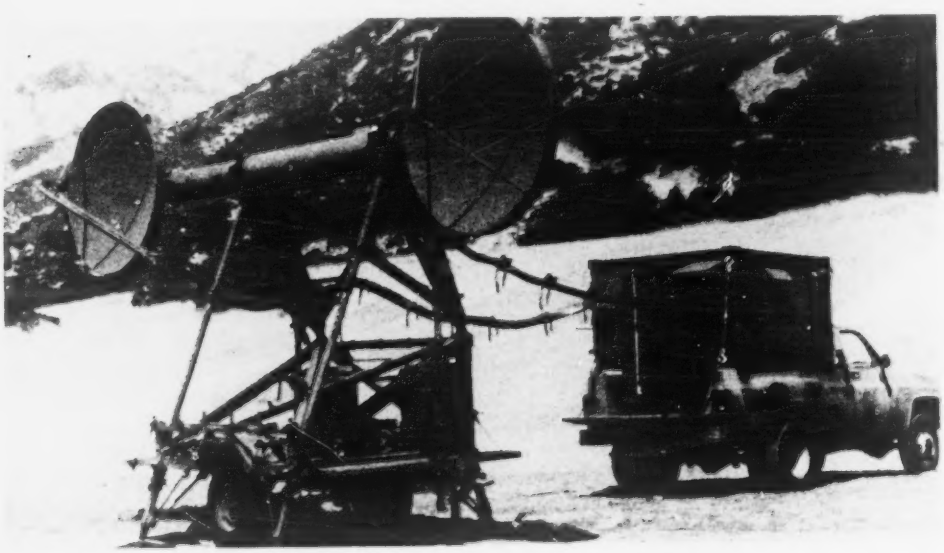
Current systems cannot adequately accommodate the expected volume of traffic to be generated within an all digital communications system. The new command and control equipment being procured will exceed the capacity of existing multichannel equipment.

Program Status:

The Marine Corps is participating in this joint program with the Army and Air Force. The initial production contract was awarded in April 1982 and the equipment is now being used by the Air Force and Army. Marine Corps IOC is scheduled for FY-93.

Developer/ Manufacturer:

Raytheon and UNISYS.



Digital Communications Terminal (DCT), AN/PSC-2

Description:

The DCT is a programmable, hand-held, input/output device that operates over tactical radio and wireline systems. The terminal enables the user to transmit and receive messages in short digital bursts which minimize detection risk by decreasing "on air" transmission time. The device weighs approximately 4.5 pounds and is approximately 100 cubic inches. The DCT allows the operator to rapidly compose, edit, transmit, receive, and display preformatted and free-text messages and graphic data. The DCT will expand and enhance command and control of direct air support, low altitude air defense, reconnaissance elements, and fire support with its speed and accuracy.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	1687	174	519	3124

Why Is It Important?

The DCT represents a dramatic improvement in speed, accuracy, and reliability of USMC tactical communications.

Program Status:

A second source contract was awarded in FY-89. Full scale production contracts will be competed beginning in FY-90 and continuing until remaining Army, Air Force, Navy, and Marine Corps requirements are met. IOC planned for 2nd Quarter FY-89.

Developer/ Manufacturer:

Litton Data Systems Division and
ITT Defense Communications Division (South)

Tactical Communications Center (TCC), AN/MSC-63A

Description:

The TCC is a semiautomatic (computer assisted) tactical message center to be used at Division, Wing, FSSG and MEF/MEB command elements. It provides for the receipt, storage, routing, distribution, reproduction and transmission of general service record traffic within a command post and to adjacent and higher headquarters. The TCC will terminate data/teletype circuits to AUTODIN, the Naval Telecommunications System, local (within the command post) teletypes or end user computer terminals. It has the capacity to operate at selectable data rates of 75-24,000 bits per second.

The TCC consists of two major components; The AN/MSC-63A Communications Central and the Reproduction/Distribution Facility (R/DF). Each component can operate independently and is being developed and procured separately. Both components are housed in an 8'x 8'x 10' container. The AN/MSC-63A consists of off-the-shelf hardware items such as computers, video displays, teletypes, disk units, tape units, modems, and Communications Security equipment. The R/DF contains two commercial reproduction machines, a safe, shredder and printer. The printer can be electronically connected to the AN/MSC-63A.

Procurement Profile:

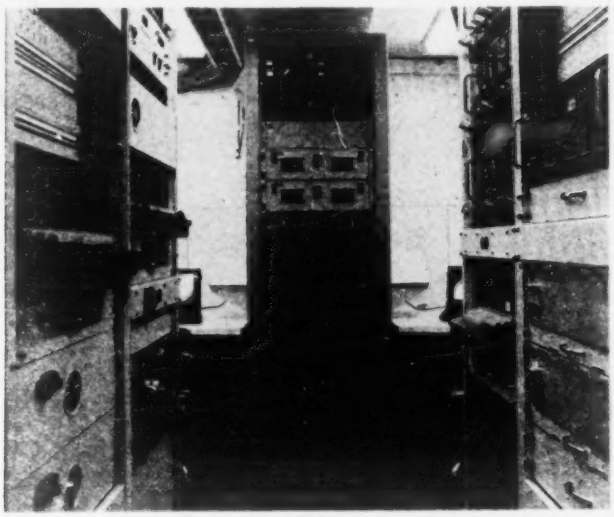
	PRIOR	FY-90	FY-91	AO
Quantity		9	9	18

Why Is It Important?

Current tactical communications center equipment is over 20 years old and is slow, unreliable and increasingly difficult to maintain. It is heavy for expeditionary operations, will not interface with emerging digital transmissions systems and does not meet user throughput or maximum delay requirements for record traffic.

Program Status:

Initial fielding of the TCC is scheduled for the 4th Quarter FY-90.



Have Quick II Antijam Communications

Description:

Have Quick is a frequency hopping capability which is embedded in Marine Corps Ultra-High Frequency (UHF) radios. This system provides voice communications with antijam protection. There are two current versions of Have Quick (Have Quick I and Have Quick II) with the principal difference being the allowable frequencies on which the radio hops. A third version, Have Quick IIA, is being developed to counter a more sophisticated threat. Have Quick II compatible radio equipment includes the AN/PRC-113, AN/VRC-83, AN/GRC-171A(V)4, and the AN/GRC-XXX.

- **AN/PRC-113 and AN/VRC-83:**
  These are standard manpack and vehicular UHF radios used for air-ground communications including close air support operations. All radios have been modified and presently have the Have Quick I and II capability.

- **AN/GRC-171A(V)4:**
  This radio is used for voice communications between ground units and aircraft in flight. It supports Have Quick I and II operations and is the standard UHF radio for agencies within the Marine Air Command and Control System.

- **AN/GRC-XXX:**
  Restrictions limited the procurement to only 64 of the 171A(V)4. The AN/GRC-XXX will complete fielding of a UHF Have Quick capable radio. This radio will provide the Active and Reserve Forces with an Air Force Standard Radio which is jam resistant, and designed for use in a shelter environment. This radio will also support digital exchange over TADIL-A or TADIL-C.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
AN/PRC-113	1184	290	69	1528
AN/VRC-83	427	113	103	643
AN/GRC-171A(V)4	64			64
AN/GRC-XXX				543

Why Is It Important?

Have Quick II provides reliable anti-jam UHF communications. Air to ground communications are essential for effective direct support of ground forces. Additionally, Have Quick II is the NATO standard and the Marine Corps must have it to be interoperable with Allied forces.

Program Status:

The Have Quick program is an Air Force lead program with participation from all U.S. Services. The modification of the AN/PRC-113 and AN/VRC-83 is being performed by Marine Corps Logistics Base, Albany and should be completed by FY-90. The AN/GRC-XXX is also an Air Force lead program with options for the Marine Corps to procure the required radios. Contract award for this program is scheduled for 1st Quarter FY-91.

Developer/ Manufacturer:

Magnavox (PRC-113 and VRC-83)
Rockwell/Collins (GRC-171A(V)4)
TBD (AN/GRC-XXX)

AN/TSC-96 Product Improvement Program

Description:

The AN/TSC-96 Satellite Communications (SatCom) Central is a UHF SatCom terminal which provides a deployed MAGTF with access to the Naval Telecommunications System (NTS) using the Fleet Satellite constellations. The AN/TSC-96 provides access to the Common User Digital Information Exchange Subsystem (CUDIXS) net for record traffic, the Fleet Secure Voice Communications subsystem (Fleet SEVOCOM), Fleet Broadcast (FBCST) and a low speed teletype net. It is a dependable, mobile, high speed data system which is terrain independent. The AN/TSC-96 terminals have been used extensively since 1981 and consist of the Naval Modular Automated Communications Subsystem (NAVMACS) components installed in two shelters. The Navy is making improvements to the FLTSATCOM system and we are installing the necessary modifications as a PIP to maintain interoperability. Phase 1 (presently in prototype) includes the Demand Assigned Multiple Access (DAMA) Secure Voice modification, installation of AN/UGC-74 teletypes, and antenna replacement with a supportable and more efficient design. Phase 2 (FY-93/94) will include the CUDIXS/NAVMACS DAMA modification, computer replacement using the more efficient AN/UYK44 computer and refitting to a single shelter configuration.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity (Phase I)		6	4	10
(Phase 2)				10

Why Is It Important?

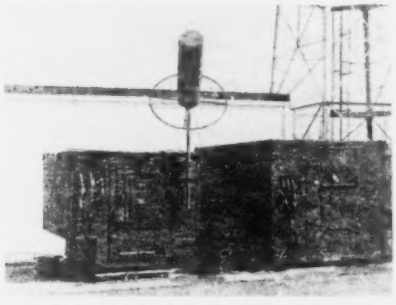
The AN/TSC-96 allows real time passage of critical information between command elements ashore and afloat. The Navy's schedule for full implementation of Secure Voice Dama in FY-92 and CUDIXS/NAVMACS DAMA in FY-96 make it imperative for the AN/TSC-96 to be modified in order to continue use of the Naval Telecommunications System by MAGTF CEs. Without the PIP, the terminal will not work as part of the NTS.

Program Status:

The developmental testing of the three Phase 1 modifications is in progress at the Navy's Advanced Electronics School in San Diego, CA and 9th Communications Battalion at Camp Pendleton, CA. All 10 systems will be completed in 3rd Quarter FY-91. Design engineering for Phase 2 modifications is 85 percent complete but has been suspended until 1st Quarter FY-92.

Developer/ Manufacturer:

Naval Electronics Systems Engineering Center, Vallejo, CA



The AN/TSC-96 PIP will reduce the size of this system to a single shelter and upgrade the computer and antenna assembly"

Single Channel Ground and Airborne Radio System (SINCGARS)

Description:

The SINCGARS family of VHF radios will replace most VHF/FM manpack and mobile tactical radio communications currently in the Marine Corps. SINCGARS will provide anti-jam frequency hopping communications in the frequency range of 30.00 to 87.975 MHz with 25 KHz spacing. It is mission flexible for voice or data, plain or cipher text and remote control operation. Using the combination of low, medium or high power selections and a frequency hopping electronic counter-countermeasures (ECCM) capability, SINCGARS features a low electronic signature to elude current threat direction finding equipment.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	2,318			25,717

Why Is It Important?

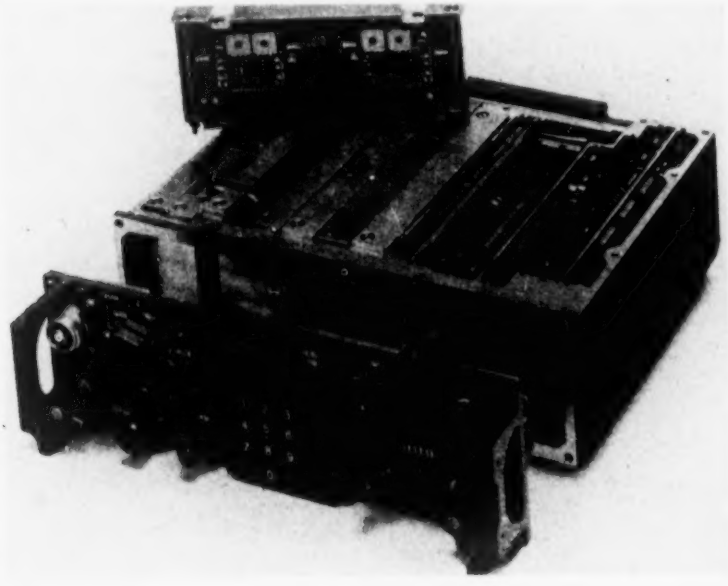
The Marine Corps is relying upon radio equipment which is over 20 years old and is difficult to support. The present VHF/FM radios are vulnerable to exploitation and interception and are severely degraded when operated in a jamming environment. SINCGARS will accommodate interoperability in joint and combined operations. The new model will offer optimum capability for secure voice communication with minimum weight.

Program Status:

The Marine Corps is buying the integrated Communications Security (ICOM) version of SINCGARS, an improved model of the current radio. Testing is scheduled for FY-90/91.

Developer/ Manufacturer:

ITT and General Dynamics/Tadiran



Fiber Optics Cable System (FOCS)

Description:

FOCS is a lightweight, EMP-hardened tactical communications cable system developed to replace the copper cable system. FOCS will now be employed with TRITAC and non-TRITAC communications equipment. FOCS operates over distances of six kilometers without repeaters. A FOCS system typically consists of two converters and six 1-Km fiber optics cables. Test and Support equipment include the Test Set and a Cable Repair Kit.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
Fiber optics cable (1Km)	270	237	237	1,500
Fiber optics cable (.3Km)	152	1,032	1,088	4,376
Cable repair kit	24	24	24	126
Converters		910	1,660	3,325
Test set		123	170	347

Why Is It Important?

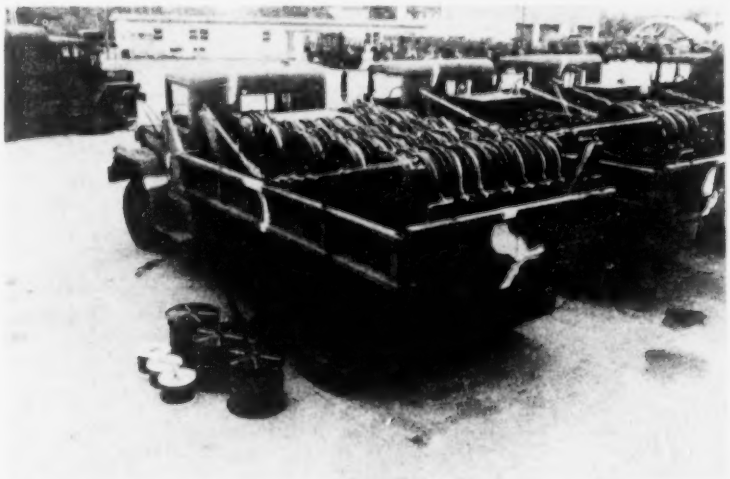
Communications cannot be compromised since optical signals on fiber optics cables cannot be intercepted or detected without physically penetrating a cable. FOCS are immune to noise and are not susceptible to extraneous signals. Transmission quality is improved four times over copper cable. Handling and deployment problems are significantly decreased due to weight reductions of 75 percent. Inventory of cable types is minimized. Large cable bandwidth (400 Hz) allows for future expansion (with improved hardware).

Program Status:

Currently in source selection. IOC 2nd Quarter FY-91.

Developer/ Manufacturer:

TBD



Fiber optic cable is much lighter and smaller. The three small rolls of fiber optic cable in the foreground replace the heavier copper cable carried by two and a half trucks.

Marine Flexible Fire Support System (FIREFLEX)

Description:

FIREFLEX will provide fire support command and control automation and digital communications connectivity to artillery personnel at battalion and higher Fire Direction Centers, Fire Support Coordination Centers, Supporting Arms Coordination Centers and Supporting Arms Special Staff within the MAGTF. FIREFLEX will expand this initial capability to include Close Air Support, Naval Gunfire and mortar functionality in an evolutionary manner. As a minimum, a suite of FIREFLEX equipment shall consist of two computer/communications terminals and printers for the execution of current operations and fire support planning functions.

Procurement Profile:

TBD

Why Is It Important?

FIREFLEX is required to network existing digital artillery automated command and control systems (i.e. Battery Computer System (BCS), TPQ-36 (counter-mortar radar) and Meteorological Data System). These existing systems have created an unprecedented increase in the volume and nature of fire support information available to MAGTF commanders during operational planning and combat decision-making at the battalion level and higher. FIREFLEX enables Marine commanders to use this fire support information in a timely manner while significantly enhancing the communications record-keeping functions required within fire support agencies.

Program Status:

The Marine Corps believes that a modified version of the Army's Advanced Field Artillery Tactical Data System (AFATDS) will meet USMC unique requirements as stated in the FIREFLEX ROC. To this end, the Marine Corps has established an FMF User Testbed utilizing currently fielded Army equipment (Modified BCT and Modified FIST) in order to refine, verify and define USMC digital fire support automation requirements so that it can more knowledgeably influence the AFATDS program. Additionally, the Army and Marine Corps have signed a Memorandum of Agreement (MOA) which defines USMC participation in AFATDS. It is the intent of the Army and Marine Corps that AFATDS be a single, multi-service system which uses Non-developmental item (NDI) common hardware. An IOC of 3rd Quarter FY-93 is desired.

Developer/ Manufacturer:

Software - Magnavox
Hardware - TBD

Advanced Tactical Air Command Central (ATACC)

Description:

The ATACC replaces the current AN/TYQ-1 and AN/TYQ3A, as well as provides significant operational and logistics enhancements. The ATACC system consists of two identical suites of equipment housed in four 8' x 8' x 20' shelters. Two electrically or physically joined shelters support a MEB Tactical Air Command Center (TACC), referred to as a suite. Two suites are capable of being electrically jointed to support a MEF TACC. Each suite houses operator work stations, desktop communications units, data processors, computer programs, communications access devices, a large screen display, radios, and other equipment necessary to perform battlestaff functions. Utilizing NDI hardware and software, the ATACC will provide a state-of-the-art capability to command, supervise and coordinate tactical air operations, as well as automated mission planning, decision support and Air Tasking Order (ATO) processing and generation.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				6

Why Is It Important?

The TACC is the senior Marine Aviation Command and Control System agency. The supervision and general control of all tactical air operations in the MAGTF area of responsibility are conducted in the TACC. The TACC also provides the Tactical Air Commander (TACC) with the facilities and means to direct and coordinate organic aviation assets with other services, and/or nations. Additionally, the current TACC, fielded in 1972, is logistically insupportable and does not provide the TAC with the needed automated mission planning, decision support and ATO processing for countering the threat of the 21st century.

Program Status:

The system has completed Milestone I and II, and contract award was made in December 1988. The system requirements analysis has been completed and the contractor has begun the system design process. IOC is scheduled for 1st Quarter FY-94.

Developer/ Manufacturer:

Grumman Data Systems

Tactical Air Operations Module (TAOM), AN/TYQ-23(V)1

Description:

TAOM is a joint Marine Corps/Air Force program designed to develop and produce operations modules which, when employed independently or in groups of up to five, provide for air defense and air traffic control and coordination as required by the MAGTF during combat operations.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	30	6	6	48

Why Is It Important?

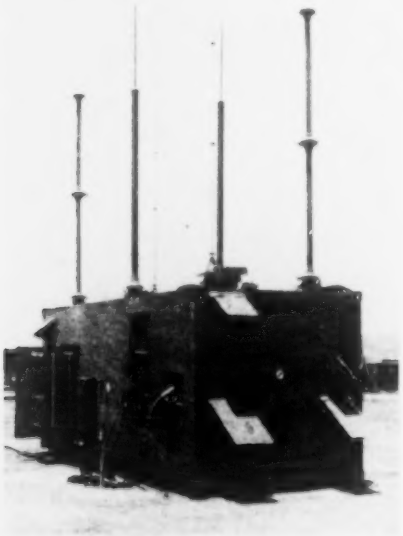
The TAOM program will replace aging equipment which is logistically insupportable. The new equipment is modular and thus allows phased introduction of air control assets into a MAGTF area of operations. TAOM requires fewer technical personnel to operate and requires less strategic lift than the current air control system. It also offers training improvements at a reduced cost. Availability is increased due to improved system reliability and ease of repair. Each module will have the operational capabilities to perform all required air control functions on the modern battlefield. With the addition of identical modules, the MAGTF ACE can rapidly expand its capability to control and coordinate air operations.

Program Status:

Milestone III was passed in December 1986 and a fixed price contract awarded in May 1987. Based on demonstrated corrections of operational deficiencies noted during OT II, additional systems have been purchased in FY-88 and FY-89. IOC is currently scheduled for May 1991.

Developer/ Manufacturer:

Litton Corporation, Data Systems Division



AN/PPN-19(V) Multifunction Radar Transponder Beacon-Target Data Communicator (RABFAC-TDC)

Description:

The PPN-19 is a replacement for the AN/PPN-18 RABFAC and UPN-32 Naval Gunfire Beacon Systems. The PPN-19 allows ground units to identify themselves to friendly radar-equipped aircraft and ships so these support forces can more accurately and safely provide Close Air Support and/or Naval Gunfire Support. The addition of a preplanned product improvement consisting of a Ground Middle Layer (GML) and Ground Remote Terminal (GRT) will provide and "up link-down link" data capability with compatible aircraft (future F/A-18 C/D) to a range of 100 nautical miles.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		154	139	359

Why Is It Important?

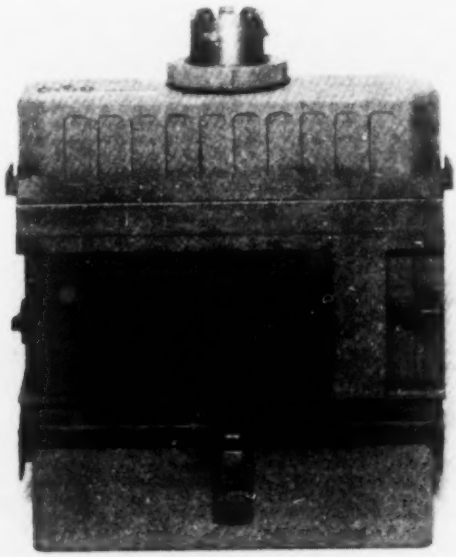
This capability is jam resistant, reduces reliance on voice communications and allows low altitude terrain masking and minimum exposure of aircraft to enemy ground threats. It improves upon the basic capability of the PPN-19. The improvement speed up communication of mission data between controlling ground personnel and attacking aircraft, improving aircraft survivability and helping achieve mission success.

Program Status:

Contract for the P3I Modification Kits is to be awarded 2nd Quarter FY-90. Systems will be modified as kits are produced and delivered.

Developer/ Manufacturer:

Motorola Inc.



Fleet Marine Force End User Computing Equipment (FMF-EUCE), AN/UYK-83 and AN/UYK-85

Description:

The FMF-EUCE gives the MAGTF commander the ability to access and process his deployable information systems. The FMF-EUCE was initially fielded in October 1988, to replace the ADPE-FMF (Green Machine). Used both in garrison and deployed environments, these ruggedized, electro-magnetic interference (EMI) tested, TEMPEST certified microcomputers come in two sizes. The AN/UYK-83 is the larger of the two offering a larger disk storage capacity and greater expansion capability. The AN/UYK-85 is the smaller FMF-EUCE weighing 35 pounds, is self contained with a fold out display, and has the ability to operate with electrical power from a tactical vehicle.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	2,420	1,420	1,286	5,126

Why Is It Important?

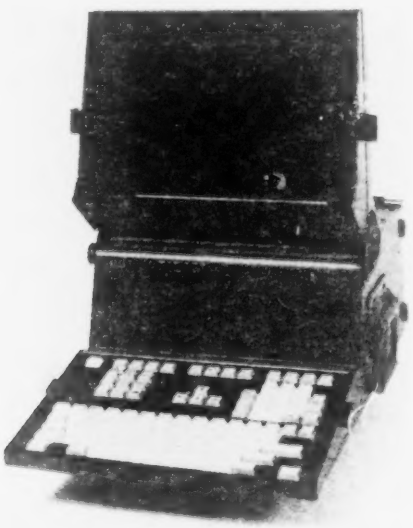
The FMF is increasingly dependent on automated data systems to reduce the burden of logistics and to enhance the performance of battlefield supply, maintenance, embarkation, and manpower systems. The AN/UYK-83 and AN/UYK-85 are important to this effort as the only deployable and fully supported automated data processing equipment available to the FMF commander. Without the FMF-EUCE, the FMF will have to rely on inefficient manual management systems.

Program Status:

The FMF-EUCE was procured directly through competitive contracting. IOC occurred in December 1988.

Developer/ Manufacturer:

C3, Inc, Herndon, VA



AN/TYQ-19 Block Upgrade

Description:

The AN/TYQ-19 block upgrade is a response to an identified FMF requirement to improve the Intelligence Analysis Center (IAC), a MEF asset. The IAC is a vital component of the Marine Air Ground Intelligence System (MAGIS), processing information from imagery systems, signals intelligence, airborne electronic reconnaissance, Navy, other Service, theater and National assets, and from other sources internal and external to the MAGTF. The resultant intelligence is presented to the tactical commander and disseminated as required. The bulk of the IAC's information is stored in a data base—currently the Naval Intelligence Processing System (NIPS) data base. NIPS will transition to the Defense Intelligence Agency's Integrated Data Base (IDB) by the end of 1990. The block 2 upgrade will field LANbased microcomputer systems (Suite) at Regiment/Group/MEU and single workstations at Battalion/Squadron, while the block 3 upgrade will replace the existing IAC with a HMMWV-mounted shelter for the MEF/MEB. The resulting systems will comprise the Intelligence Analysis System.

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity	6		
Block 2 Upgrade:			
Suites			54
Workstations			177
Block 3 Upgrade:			12

Why Is It Important?

The IAC upgrade will allow the system to use data from the IDB, will give it a mobility commensurate with the assigned unit, and will extend selected automated intelligence capabilities to organizations below the MEF level. The IAC must be upgraded to retain a national and joint (Navy) data base capability following the implementation of IDB in 1990-91.

The current IAC is so large as to severely limit mobility, making it impractical for use with anything less than a full MEF deployment. The upgraded IAC will include versions which are deployable with the MEB and with the MEU. The IAC upgrade will automate portions of the intelligence cycle beyond simply maintaining a data base. For example, it will include the intelligence journal and workbook, two products which are pivotal to the daily function of the intelligence section at any level. It will also include a collection management capability.

Program Status:

Three Block 2 prototype systems are currently being evaluated by the three MEF's. The results of this evaluation will be used to develop an Block 2 Upgrade system for procurement and fielding in FY-92/93. The Block 3 Upgrade system will be developed for procurement and fielding in FY-93/95.

Tactical Remote Sensor System (TRSS)

Description:

TRSS is a suite of unattended ground sensor equipment that provides the MAGTF commander with a state-of-the-art electronic system capable of continuous, all weather detection, location determination and monitoring of activity in the Amphibious Objective Area (AOA). TRSS is comprised of hand and air-emplaced remote sensors and relays, and data storage and readout equipment. The remote sensor devices detect activity using seismic, magnetic, infrared and imaging technologies. The current set of sensor equipment, referred to as Phase III, is insupportable and no longer a viable combat asset. The Phase V suite of replacement equipment will be in service in the 1991 time frame. The goal of the modernization program is to upgrade the existing sensor capability with sensors that are smaller, lighter, and more cost effective by taking advantage of modern technology in micro-miniaturization and packaging techniques.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity (sets)		1	2	3

Why Is It Important?

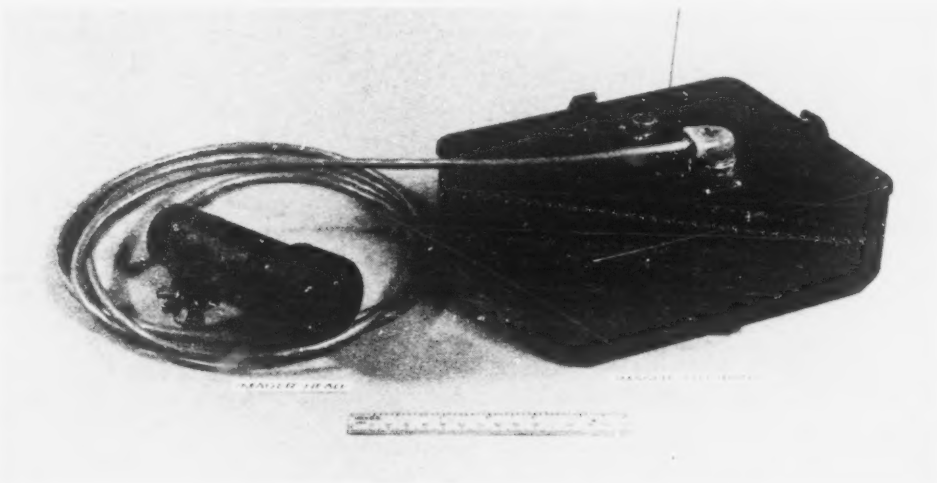
The TRSS Phase V PIP will sustain an existing combat capability by replacing obsolete and insupportable equipment.

Program Status:

Pre-production engineering and Low Rate Initial Production (LRIP) are concurrently being done by an in-house government facility. First Article Tests are scheduled for 3rd quarter FY-90, with an IOC of 1st Quarter FY-91. FOC is anticipated for FY-96, but is dependent on the budgeting process.

Developer/ Manufacturer:

Sandia National Labs, Albuquerque, NM (Early R&D) Naval Avionics Center, Indianapolis, IN (Pre-Production and Production) Naval Air Development Center, Warminster, PA (Air certification of air-delivered components)



Joint Service Imagery Processing System (JSIPS)

Description:

The JSIPS is a mobile ground processing facility designed to receive and exploit softcopy Infrared (IR) and Electro Optical (EO) imagery from tactical aerial reconnaissance systems. It will also receive and exploit imagery from national and theater sources. Product improvement options include a Common Radar Processor to process both tactical and theater radars, and a Mapping, Charting, and Geodesy Processor.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				6

Why Is It Important?

Current Marine Corps capability for processing and exploiting imagery is dedicated to hard copy (film based) products. The thrust of technology is to near-real-time, soft-copy, digital imagery, which is data linked from the sensor platform to the processing facility. Soft-copy imagery exploitation allows the imagery interpreter to extract much more information than is normally attainable from film-based imagery. Data-linked digital imagery, soft-copy, computer-enhanced image exploitation and the increasing digital imagery expected to be available in the future requires that the Marine Corps move forward in the acquisition of a processing facility capable of deploying with the MAGTF. The Marine Corps will purchase six systems to replace the Imagery Interpretation Facilities at the three Force Imagery Interpretation Units.

Program Status:

Contract signed 14 August 1987 with E-Systems, Garland, TX to produce an EDM for delivery in FY-91.

Developer/ Manufacturer:

E-Systems, Garland, TX

Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) AN/TSQ-90D

Description:

TERPES is a segment of the Marine Air Ground Intelligence System (MAGIS). The system processes and identifies electronic intelligence (ELINT) data collected from the EA-6B aircraft and correlates it with ELINT from the Tactical Receive Equipment (TRE) system. This data is fused with the Electronic Order of Battle (EOB) to provide enemy radar locations to the command, control and intelligence (C2I) elements of the MAGTF. The data also provides electronic warfare (EW) strike mission intelligence support to the ACE.

Procurement Profile:

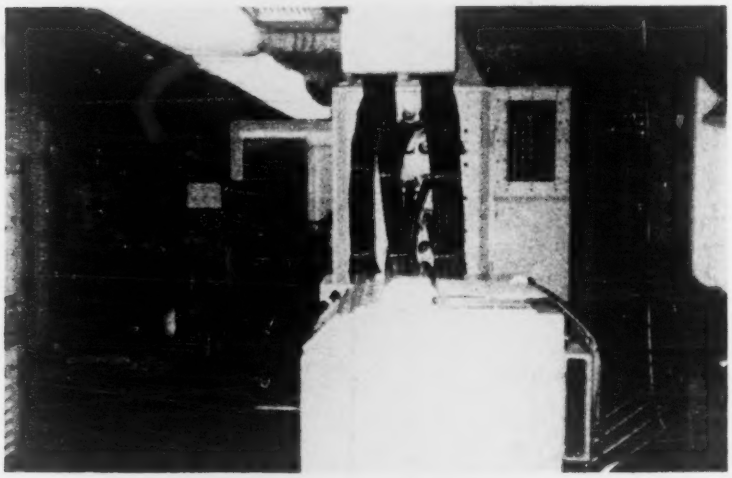
	PRIOR	FY-90	FY-91	AO
Quantity	5		5	5
Phase III upgrade			5	5

Why Is It Important?

The EA-6B/TERPES is the Marine Corps' organic asset for processing tactical ELINT data. This data provides the MAGTF with ELINT and EOB information required to perform successful strike and HARM mission planning. The planned upgrades will provide a near-real-time processing capability of time sensitive intelligence to C2I elements during the 1990's.

Program Status:

TERPES Phase III upgrade started in June 1989 and will be fielded in June 1991. This upgrade will fulfill the requirement to use the Military Integrated Intelligence Data System (MIIDS) provided by Defense Intelligence Agency (DIA). This product improvement will provide near-real-time communication data link capability with EA-6B and TRE. Further, using the Rapid Information Management System (RIMS) as the communications processor will allow the TERPES to interface with SSCC, TCC, IAC, TCAC and TAMPS.



Mobile Electronic Warfare Support System (MEWSS)

Description:

The MEWSS is an electronic warfare system capable of rapid mobility over all types of terrain. The MEWSS electronic suite consists of a direction finder set, a jammer, and intercept receivers installed in a LAV chassis. The system is designed to provide MAGTF commanders with the capability to detect, determine Line of Bearing (LOB), and degrade enemy tactical communications during the amphibious assault and subsequent operations ashore.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	12			

Why Is It Important?

The Marine Corps currently has no light armored mobile electronic warfare capability. The MEWSS will provide the ability to support mobile operations, both in the AOA and during subsequent operations ashore. This system is critical to Marine Tactical SIGINT/EW support operations.

Program Status:

The basic AN/MLQ-36 will be fielded in FY-90. A product improvement program will be initiated to upgrade the system capabilities to conduct operations against Frequency Agile Threats.

Developer/ Manufacturer:

TACOM/General Motors Company, Ontario, Canada. PIP—TBD.

Communication Electronic Countermeasures (CECM)

Description:

The CECM projects will provide upgraded ECM capabilities by replacing aging VHF ECM equipment and acquiring UHF and High Frequency (HF) ECM-capable systems for the FMF Radio Battalions. The VHF/UHF CECM system will be installed in either the HMMWV and/or UH-1/CH-46 helicopter to meet the MAGTF's requirements. The HF CECM system will be team or vehicle transportable.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
VHF/UHF/CECM				15
HF CECM				8

Why Is It Important?

The CECM systems will provide the MAGTF commander the ability to conduct ECM operations in a sophisticated signals environment and at extended frequency ranges beyond current system capabilities.

Program Status:

The VHF/UHF CECM contract was awarded during FY-89 and testing is scheduled for FY-91. The HF CECM will also be an NDI procurement, following evaluation of current and projected NATO HF ECM tactical systems.

Developer/ Manufacturer:

VHF-Rockwell, Collins, Cedar Rapid IA, HF-TBD

Communications Collection Outstation (CCO)

Description:

The CCO is a modular, transportable, semi-automated collection and direction finding system that will give the MAGTF commander a modernized ground-based communications intelligence (COMINT) intercept and direction finding capability. The CCO is housed in transit cases and can be transported in the HMMWV. The CCO can be remoted up to 50 feet from the antenna subsystem. Information collected by the CCO will be transmitted via data link to the Technical Control and Analysis Center (TCAC).

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	6	3	6	27

Why Is It Important?

The Marine Corps has a vital requirement to provide tactical signals intelligence (SIGINT) support to the MAGTF commander. The ever increasing usage of battlefield electronics coupled with an increased tempo of operations requires that future intercept and direction finding systems be computer-driven so that direct tactical SIGINT will be timely and responsive.

Program Status:

The CCO is currently in FSD. User testing is scheduled for 2nd Quarter FY-90.

Developer/ Manufacturer:

TCI, Baltimore, MD

Team Portable Communications Intelligence System (TPCS)

Description: TPCS is a modular scalable team portable SIGINT system providing collection, analysis, reporting, and communications functions.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				17

Why Is It Important? TPCS will be a logical continuation of current manpack receiver and DF system acquisition efforts and will fill a void in current SIGINT direct support efforts, especially in the initial phase of the amphibious landing. The radio battalions provide timely and accurate tactical SIGINT to the MAGTF commander. This support is currently performed by independent systems that are tied together via secure communications. TPCS will provide flexible intra/intersystem communication and a microprocessor terminal that will enable the radio battalion to provide direct support to the MAGTF commander when larger systems are not available or appropriate.

Program Status: Prototype integration of this NDI system began in 3rd Quarter FY-89. TPCS User testing (UT&E) is scheduled for 4th Quarter FY-90 with a production decision expected during 2nd Quarter FY-91.

Developer/ Manufacturer: Harris Corp., Government Systems Sector, Melbourne, FL

Advanced Marine Airborne Signals Intelligence System (AMASS)

Description: AMASS is an organic C-130 based airborne collection and direction finding SIGINT package purchased under the U.S. Air Force's SENIOR SCOUT procurement program. It will provide the MAGTF commander with the capability to detect, identify, locate and exploit, on a near real-time basis, enemy electromagnetic emissions that are a potential threat to air-ground combat operations which are normally beyond the range of current ground-based SIGINT sensor systems.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				3

Why Is It Important? The bulk of the cryptologic direct support to the MAGTF is provided by the ground based Radio Battalions. AMASS will fill a critical gap by providing integrated near real-time SIGINT beyond the ranges now possible with ground based SIGINT collectors. Additionally, for the first time AMASS will provide the capability to exploit certain special command and control signals of unique interest to the MAGTF commander.

Program Status: As part of the Big Safari program the USAF is currently procuring four SENIOR SCOUT systems, the first of which has already been delivered. Utilizing the Air Force contract, the Marine Corps intends to buy two systems.

Developer/ Manufacturer: Lockheed Aircraft Service Company, Ontario, CA.

Counterintelligence and Security Equipment (CI&SE)

Description: The CI&SE program consists of two sub-projects: Technical Surveillance Countermeasures (TSCM) and the Counterintelligence Equipment Program (CIEP). Within the CIEP is a sub-project called the Counterintelligence Communication System (CCS). The CI&SE is designed to provide specialized material to FMF Counterintelligence Teams (CITs) to improve their capability to collect, analyze, and disseminate information, conduct counter-intelligence operations, carry out the anti-counterterrorist mission, and improve the quality of overall support to MAGTFs.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Funding ($Ms)	0.41			

Why Is It Important? CI&SE will substantially increase the ability of Marine CITs to prevent intrusion by threat intelligence collection efforts.

Program Status: Test and evaluation of candidate items for procurement is ongoing. IOC for CCS scheduled for 1st Quarter FY-90.

Developer/ Manufacturer: CIEP: Various
CCS: Naval Air Development Center, Warminster, PA

Electronic Intelligence (ELINT) Support System (ESS)

Description: The ESS is an omni-directional integrated ground and airborne based system to intercept, identify, analyze and locate hostile ground-based non-communications emitters. The system will provide the MAGTF elements with timely information pertaining to the disposition and status of hostile emitters within their tactical area of responsibility.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Ground				12
Air				8

Why Is It Important? The FMF Radio Battalion presently does not possess the organic capability to perform collection and exploitation of battlefield non-communications threats. ESS will fill a critical gap in the Marine Corps ability to provide tactical ELINT direct support to the MAGTF commander.

Program Status: The Marine Corps is currently evaluating the integration of NDI system components into an LAV variant for ESS ground and a UH-1N configuration for the ESS air variant.

Developer/ Manufacturer: Lockheed Missiles and Space Company Inc., Austin, TX.

Joint Tactical Information Distribution System (JTIDS)

Description:

JTIDS will provide users with secure, jam-resistant, voice and data communications capabilities. Integrated with a host tactical data system, JTIDS will support high-capacity, near-real-time exchange of tactical information in support of MAGTF, NATO and Joint command and control operations. JTIDS is dependent upon its integration within a JTIDS module which will, in turn, interconnect with a host system. The TAOM has been identified as the initial host tactical system. This will fully exploit this technology into the Marine Air Command and Control System.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				66

Why Is It Important?

Current data communications capabilities supporting tactical command and control information exchange are vulnerable to exploitation and interception and are severely degraded in a jamming environment. JTIDS and the Tactical Datalink (TADIL-J) will overcome these deficiencies and provide tactical decision makers with survivable, secure, high-capacity communications capabilities.

Program Status:

This system has completed Milestone I, II and IIIA. Full Scale Development (FSD) terminals will be delivered during 3rd Quarter FY-91 for initial integration development with the host platform. IOC of 1st Quarter FY-96 is desired.

Developer/ Manufacturer:

Plessey Electronics Systems Corporation, Wayne, NJ

Ground Combat Element (GCE)
Introduction

The GCE of a MAGTF is a task organization tailored to accomplish a particular mission. It is constructed around an infantry unit and varies in size from a reinforced battalion to one or more reinforced Marine divisions. It includes the full range of ground combat systems to include combat support.

The ultimate object in war is the defeat of the enemy by the application of superior combat power at the decisive place and time. The GCE is instrumental to this objective. It is the GCE that usually executes maneuver against the enemy and is the focal point for the application of firepower. Maneuver involves the tactical movement of forces on the battlefield, in combination with firepower, to achieve a position of advantage against an enemy. Firepower provides the destructive force essential to defeating the enemy's ability or willingness to fight. The combination of maneuver and firepower is a synergistic relationship that can be exploited by the MAGTF commander.

This section is composed of those program areas associated with the mission area of ground combat.

Light Armored Vehicle-Air Defense (LAV-AD) Program

Description:

The LAV-AD is being developed as a member of the LAV family of vehicles. The LAV family is a series of 8x8 wheeled, light armored vehicles that provide significant improvements in firepower and tactical mobility for combat units. USMC doctrine requires other LAV configuration or mission role variant (MRVs) such as the LAV-AD, to perform mission roles in an integrated combined arms team. All vehicle configurations have the same power plant, drive train, steering assemblies and similar ballistic hulls.

The LAV-AD is a ground-based, low altitude anti-aircraft weapon platform featuring a stabilized turret with a shoot-on-the-move capability mounted in a LAV chassis. The system will integrate a rapid fire 25mm automatic gun and four to eight Stinger surface-to-air missiles. The turret will also have the capability to incorporate the 2.75 inch Hydra 70 rocket system.

The LAV-AD fire control system will consist of a forward looking infrared (FLIR) sight, a laser rangefinder, a contrast autotracker, a vehicle navigation system, a fire control computer and various sensors. Target acquisition and tracking feature visual, sensor, and external sources integrated into manual and automatic modes.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				125

Why Is It Important?

The mission of the LAV-AD is to defend maneuvering Marine Corps combat forces from airborne attack and provide ground defenses against light armored mechanized forces. The proliferation of sophisticated air assets throughout the world requires that rapidly moving light armored elements of the MAGTF be able to defend themselves against air attack.

Program Status:

The LAV-AD program is in Full Scale Development (FSD) with two contractors developing and integrating two prototype turrets into a LAV chassis. Developmental and operational testing occurs in FY-90/91 with production award to one contractor planned for FY-93 contingent upon successful testing. The Marine Corps' acquisition objective is 125 systems.

Developer/ Manufacturer:

General Electric and FMC in FSD.

Light Armored Vehicle-105mm Gun (LAV-105) Program

Description:

The LAV-105 is being developed as a member of the LAV family of vehicles. The Marine Corps warfighting doctrine requires other LAV configurations, such as the LAV-105, to perform mission roles in an integrated combined arms team. All configurations have the same power plant, drive train, steering assemblies and similar ballistic hulls.

The LAV-105 is a large caliber gun system featuring a 105mm stabilized, auto-loading gun. The system will integrate a thermal sight, laser range finder and a fire control computer into a state-of-the-art fire control system.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				154

Why Is It Important?

The LAV-105 will provide a highly mobile direct fire capability for the Light Armored Infantry (LAI) Battalion and other units of the MAGTF. The Marine Corps 105mm Gun requirement is for a quick fire/direct fire capability to destroy enemy command vans, bunkers, installations, and light armored vehicles consistent with the level of mobility/transportability designed into the LAV family of vehicles.

Program Status.

The LAV-105 program is in FSD. The LAV-105 acquisition strategy for FSD is to provide two qualified contractors with two chassis/guns each. The contractors will design and integrate a turret into the LAV chassis and deliver the prototype systems for Marine Corps testing. These systems will participate in development and operational testing during FY-92. Production contract award is scheduled for FY-94 with deliveries beginning during FY-95.

Developer/ Manufacturer:

TBD

The basic LAV-25 (shown above) mounts an M242 25mm automatic cannon. The Air Defense and Assault Gun configurations will complete the LAV family which also includes Antitank, Mortar, Recovery, Command and Control, and Logistics variants.

Lightweight 155MM Howitzer (LW155)

Description:

Fire support in maneuver warfare requires towed artillery with superior mobility to the M198 155mm howitzer which weighs 16,000 pounds, while retaining that weapon's 30 kilometer range and 155mm lethality. A Required Operational Capability (ROC) for a 9,000 lb LW155 details this requirement, including compatibility with Marine vertical assault support aircraft. The Marine Corps' artillery plan reduces our current inventory of five howitzer types to just two weapon systems: LW155 and the Multiple Launched Rocket System (MLRS).

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				610

Why Is It Important?

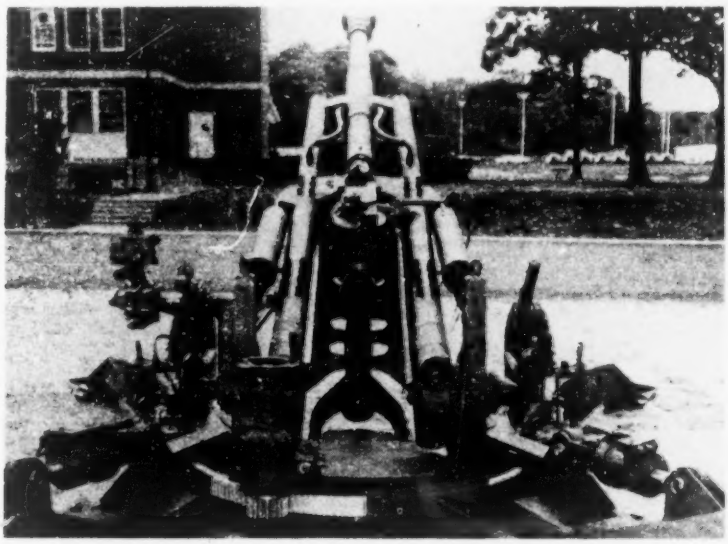
LW155 is key to implementing the Marine Artillery Plan's objective to provide the increased artillery mobility necessary for maneuver warfare in expeditionary operations. The MAGTF Master Plan establishes a requirement for the LW155 to replace not only the M198, but also all of the Marine Corps' costly, World War II-vintage 105mm howitzers currently being maintained for expeditionary contingencies requiring light, highly mobile artillery.

Program Status:

This weapon will undergo tests at Yuma and Aberdeen Proving Grounds during the 3rd Quarter FY-90. An operational demonstration will take place at Camp Lejeune in July 1990. An abbreviated Full Scale Development Phase is planned to follow using this, or another candidate system. Fielding is scheduled in FY-97.

Developer/ Manufacturer:

TBD



Multiple Launched Rocket System (MLRS)

Description:

MLRS is a highly mobile free-flight rocket system that provides artillery fires in mass volume within a very short period of time. Highly automated, an onboard navigation system and fire control computer allows the three-man crew to accomplish a complete fire mission; communicating, loading, moving, navigating, computing firing data, aiming, and firing. Its rockets are fired individually or in ripples of 2-to-12 with great accuracy since the computer re-aims the launcher immediately after each firing. MLRS fires Dual Purpose Improved Conventional Munitions (DPICM; anti-personnel/anti-armor bomblets), practice rockets, and a growing family of developmental rockets (scatterable mines, anti-armor, and extended range). The major advantage of MLRS is its firepower; a single 12-rocket volley from the launcher above delivers as many DPICM bomblets as 40 8-inch howitzers.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				77

Why Is It Important?

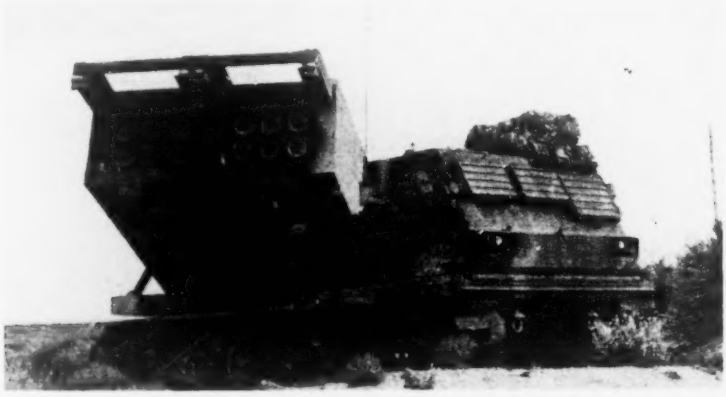
The Marine Corps requires a highly mobile, expeditionary fire support system which is capable of providing decisive, high volume, long range fire support against crucial, time sensitive targets during all stages of an amphibious assault and subsequent operations ashore. MLRS is key to implementing the Marine Artillery Plan's objective to provide the increased mobility and firepower necessary for maneuver warfare, while at the same time greatly reducing the artillery's footprint for expeditionary operations. MLRS's firepower is required to reinforce our towed artillery in low-, mid-, and high-intensity conflicts. It fulfills the requirement to suppress the massive indirect fire support and air defense assets resident today in potential Third World adversaries. In mid- and high-intensity conflicts, these fires are of even greater importance countering air defenses and armored forces.

Program Status:

MLRS is in production for the U.S. Army and 14 foreign countries. The Marine Corps will operationally test MLRS's amphibious compatibility and then order weapons from the existing production line with minor modifications, if required.

Developer/ Manufacturer:

LTV



AAV7A1 Product Improvement Program (PIP)

Description:

The AAV7A1 PIP is a fully integrated package of reliability, survivability and combat capability improvements to the Marine Corps' current assault amphibious vehicle. The purpose of the AAV7A1 PIP is to extend the combat utility of the AAV7A1 until a successor is introduced during the period of 2000-2004. The major elements of the PIP include the Upgunned Weapons Station (UGWS), Enhanced Applique Armor Kit (EAAK), Bow Plane, Automatic Fire Sensing and Suppression System (AFSSS), Day/Night Range Sight (DNRS), Improved Transmission (I-TRANS), and Improved Suspension.

Procurement Profile:

	PRIOR	FY-90	FY-91
Funding ($M's)	47.4	12.9	19.0

Why Is It Important?

The MAGTF requires the capability to execute the ship-to-shore movement of its assault elements against defended objectives. The amphibious force requires a vehicle that provides speed through the water, armor protection against indirect fire and an ability to transition to operations on land. The AAV7A1 fulfills these critical functions as the MAGTF builds up combat power ashore during the amphibious operation. The AAV7A1 is the product of the Service Life Extension Program of the LVT7 family of amphibious vehicles introduced in 1972. Full replacement for the Marine Corps' AAV7A1 fleet will not occur until early in the 21st century, over 30 years after the introduction of the vehicle. The achievement of this service life is possible only through a pre-planned product improvement program targeted at extending the mechanical life of the vehicle while providing the warfighting enhancements that will retain the vehicle's combat utility until its replacement is fielded.

Program Status:

The AAV7A1 PIP commenced with the initial fielding of the UGWS during 1987 and will continue through the mid-1990's. UGWS and Bow Planes will be fully fielded by 1990. The AFSSS will be fully fielded by 1991. EAAK and I-TRANS will be fully fielded by 1992. The Improved Suspension will be fully fielded by 1995, while the DNRS will be fully fielded by 1997.

Developer/ Manufacturer:

The AAV7A1 was developed/manufactured by FMC. Each of the product improvements are developed/manufactured by separate contractors.

Advanced Amphibious Assault Program

Description: The goal of the Advanced Amphibious Assault (AAA) Program is to provide the Marine Corps with an Over-the-Horizon (OTH), forcible entry, amphibious assault capability that replaces the AAV7A1. The product of the AAA Program will complement the Landing Craft Air Cushion (LCAC) and medium lift aircraft in providing amphibious lift and tactical mobility to the MAGTF.

Procurement Profile: Procurement funding for this developmental program will commence in FY-98.

Why Is It Important? The AAA will satisfy multiple mission area needs by providing the mobility, firepower and armor protection to embarked personnel during the ship-to-shore portion of the amphibious assault as well as subsequent operations ashore. The Marine Corps' mission requires the continuous application of technology to improve the tactical mobility of Marine expeditionary forces. The AAA's inherent characteristics allow the uninterrupted movement of the surface assault forces from ships over the horizon to inland objectives. Its speed on land and in the water, firepower, and armor protection will permit, when the situation dictates, the forcible entry of Marine expeditionary forces against opposed landing zones. Fielding is expected to begin in 2000.

Program Status: The AAA Program was approved by the Defense Acquisition Board (DAB) as a major new start and entered Concept Exploration during October 1989. RDT&E funding started in FY-90. Milestone I is scheduled for the second quarter of FY-91. The AAA Program is currently exploring the various system, concept and doctrine alternatives that may fulfill the Marine Corps' future amphibious assault requirements. A Milestone I review of the program is scheduled for April 1991, at which time the selected alternative will enter the Concept Demonstration/Validation Phase.

Developer/ Manufacturer: TBD. Among companies that have expressed interest in participating in the AAA Program are FMC, AAI, General Dynamics, BMY, Cadillac Gage and General Motors.

High Water Speed Technology Demonstrator (HWSTD)

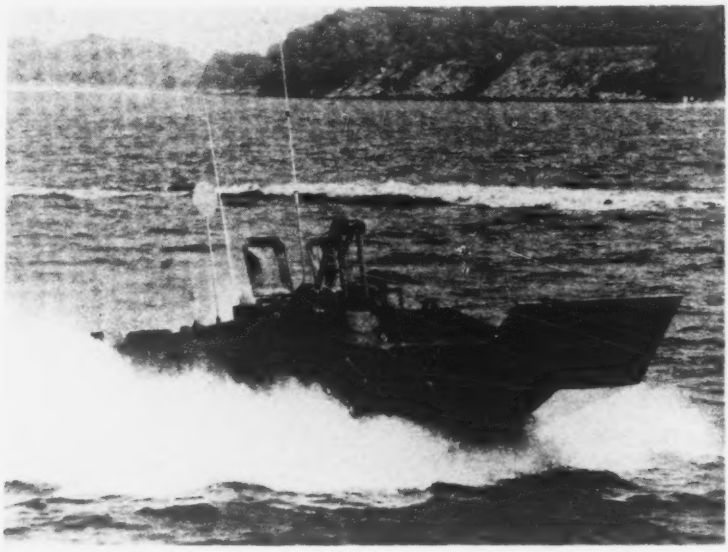
Description: The goal of the High Water Speed Technology Demonstrator (HWSTD) is to provide the means for determining the feasibility of a high water speed assault amphibian vehicle. This information will be used in the Milestone I decision process for the AAA Program.

Procurement Profile: Not applicable, HWSTD is a technology demonstrator only.

Why Is It Important? Development of the HWSTD is the first attempt to achieve high water speeds in a fully tracked amphibious vehicle. Possession of a self-deploying high water speed AAV would improve execution of the OTH concept by the year 2000.

Program Status: The Amphibious Warfare Technology Directorate, MCRDAC (AWT) has program management responsibility for the HWSTD. The Principal Development Activity (PDA) for MCRDAC (AWT) is the David Taylor Research and Development Center. The project had as its goal the demonstration of achieving 20 knots over the water by a tracked amphibian. The HWSTD was in fact preceded by numerous component and subsystem developments. The HWSTD achieved speeds in excess of 25 MPH over the water on 10 August 1989 while undergoing Contractor Acceptance Tests at the Patuxent Naval Air Station, MD. Government trials were initiated in November 1989.

Developer/ Manufacturer: The HWSTD was fabricated by the AAI Corporation, Hunt Valley, MD.



Stratified Charge Rotary Engine (SCRE)

Description: The goal of the Stratified Charge Rotary Engine (SCRE) Program is to develop a cost effective, extremely efficient, technically advanced power plant to fulfill the propulsion requirements of amphibious and land combat vehicles in the 1990's and beyond. The SCRE is a potential candidate as the propulsion system for the AAA Program.

Procurement Profile: TBD

Why Is It Important? The SCRE Program offers the opportunity to provide a multi-use family of internal combustion engines featuring highly efficient power/weight ratios and a wider range of fuel types as compared to state-of-the-art engines currently in use. The small package, high horsepower propulsion systems that will be derived from the SCRE Program are essential requirements of many future DoD combat vehicle programs, including the AAA Program.

Program Status: The SCRE Program, since its inception in 1985, has progressed to the point where FSD (Milestone II) is scheduled to commence during the 1st Quarter of FY-92. The developer of SCRE is currently conducting contractor environmental and performance testing of prototype rotary engines.

Developer/ Manufacturer: John Deere Technologies International

Assault Amphibious Vehicle Mine Plow

Description: The AAV Mine Plow consists of a track width mine plow mounted on an AAV7A1 and a control panel, located in the driver's compartment, enabling the driver to raise, lower and jettison the plow. Electro-Hydraulic valves for lift, depth control and quick release circuits are also located in the Mounting Assembly. The quick release cylinder located within the Mounting Assembly enables the plow to be secured to the towing eyes of the AAV7A1. The plow can be jettison from the operator's compartment. Electrical power for the system will come from the AAV. No vehicle modification is required to mount the plow. The plow can be mounted by the vehicle crew in one hour.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				168

Why Is It Important? This system provides the FMF with a mine proofing/clearing capability from the exit of the surf zone, across the beach, and inland in support of amphibious operations.

Program Status: Developmental Testing (DT) is scheduled for 3rd Quarter FY-90, with Operational Testing (OT) scheduled for 4th Quarter FY-90. The system is scheduled for IOC during 1993.

Developer/ Manufacturer: The PDA is the Naval Coastal Systems Center, Panama City, FL. The DT and OT test plows are being fabricated by Caterpillar, Inc. Peoria, IL.

Catapult Launched Fuel-Air Explosive Land Mine Countermeasures System (CATFAE)

Description: CATFAE is a rapid-response land mine countermeasures system capable of breaching enemy minefields in very shallow water and from the high water mark inland in support of lead echelons of the amphibious assault. The system will be employed by AAV units to provide a highly mobile quick-response capability for breaching single impulse pressure and tilt-rod antitank minefields. Breaching a 20m x 300m lane through a minefield can be accomplished in 90 seconds or less with vehicle speeds up to 6 knots afloat and 15 MPH ashore.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				73

Why Is It Important? The CATFAE system will meet a substantial portion of the beach and inland countermine deficiencies that are of such great concern to both Navy and Marine forces. In addition to being able to clear a lane up to 300 meters long, CATFAE provides far greater accuracy, standoff distance and responsiveness than any system currently in service or under development. It also provides additional options with its ability to fire single rounds or volleys at point targets.

Program Status: CATFAE transitioned into Full Scale Engineering Development (FSED) on 30 March 1989. IOC is scheduled for 4th Quarter FY95.

Developer/ Manufacturer: FSED Round: Chamberlain Manufacturing Corporation Waterloo, IA.
FSED Launcher/Fire Control System: TBD

M1A1 Main Battle Tank (MBT)

Description:

The M1A1 is the most modern tank in the world today. It is armed with a 120mm smoothbore gun and incorporates a modern fire control system. Its survivability is enhanced by the use of an improved armor protection package, an NBC overpressure system, and other improvements. Beginning with the Marine Corps procurement, the U.S. Army and Marine Corps have agreed to produce a similar tank called the M1A1 Common Tank. The Common Tank will provide the capability to conduct operations in an amphibious environment, and will include such additional enhancements as a ship/Landing Craft Air Cushion tie-down capability and a Deep Water Fording Kit (DWFK).

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	66	155	-	221

Why Is It Important?

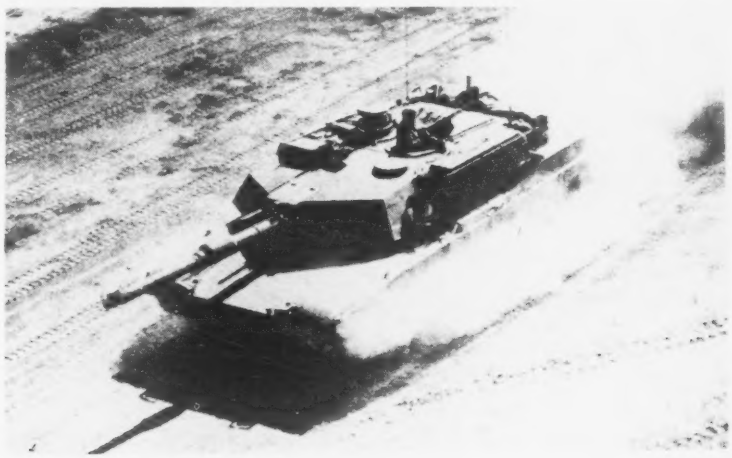
The M1A1 tank will significantly increase the capabilities of FMF armor units. The M1A1's increased survivability, lethality, and mobility will meet Marine Corps near and mid-term main battle tank (MBT) requirements against threat armor. The proliferation of Soviet Block tanks exported throughout the world requires Marine expeditionary forces to be prepared to face a modern armor threat. The M1A1 provides the MAGTF with a qualitatively superior offensive weapons system to match the threat's quantitative advantage. The M1A1 tank is a fully developed and supported system capable of conducting the full spectrum of armor operations in an amphibious environment and during subsequent operations ashore.

Program Status:

The Marine Corps approved the M1A1 MBT for service use and procurement in February 1985. The first tanks will be delivered in November 1990. IOC is scheduled for First Quarter FY-92.

Developer/ Manufacturer:

General Dynamics Land Systems Division



Advanced Anti-tank Weapons Systems - Medium (AAWS-M)

Description:	The AAWS-M is a medium range, manportable, "fire and forget" weapon system which will replace the Dragon. AAWS-M will satisfy an operational requirement to provide increased reliability, higher hit/kill probability, and greater effective range (2000m) against current and future armored threats.
Procurement Profile:	TBD
Why Is It Important?	The current manportable medium anti-tank weapon system, Dragon, is not effective against the improved conventional and reactive armor on threat vehicles in the field.
Program Status:	The AAWS-M, a joint USA/USMC program, is now in full scale development.
Developer/ Manufacturer:	Texas Instruments and Martin Marietta.

Terminally-Guided Anti-Armor Mortar Projectile (TAMP)

Description:	The TAMP program will provide the Marine Corps forces with an indirect fire anti-armor capability for existing M252 mortars. TAMP is projected to be a non-developmental item (NDI). This round will give the Battalion Commander a capability to fire at tanks from a defilade position thereby increasing the gunners survivability. This round of ammunition is designed to hit a tank from the top where it is most vulnerable. TAMP will also fill in the range gap between Dragon/AAWS-M and TOW missiles.
Procurement Profile:	TBD
Why Is It Important?	TAMP will provide the Marine Corps with an indirect fire anti-armor capability. The infantry battalions have direct fire line of sight anti-armor weapons and are not able to engage armored vehicles they can not see. TAMP will augment these direct fire systems while increasing the gunners survivability and attack the most vulnerable part of a tank.
Program Status:	The TAMP Initial Statement of Requirement (ISOR) was signed by the Assistant Commandant of the Marine Corps in October 1989. IOC could be achieved by 4th Quarter 1992.
Developer/ Manufacturer:	British Aerospace is the developer and Systems Planning Corporation (SPC) is the U.S. prime contractor for TAMP.

Short Range Anti-Tank Weapon (SRAW)

Description:	The SRAW program objective is to provide the Marine Corps with a disposable, lethal, accurate, lightweight, cost effective, "TANK KILLER". This system will fulfill the existing Marine Improved Light Anti-armor Weapon (ILAW) ROC. SRAW will be shoulder-fired and weighs less than 20 pounds.
Procurement Profile:	The R&D portion of this program is being funded by Balanced Technology Initiative (BTI) through FY-92.
Why Is It Important?	Currently the TOW 2A missile is the only weapon in our inventory that will destroy main battle tanks with reactive armor. The replacement for Dragon, AAWS-M, is not expected to reach IOC until FY-94. AT-4 is not an effective weapon against reactive armor. SRAW will provide all Marines with the capability to destroy all armored vehicles including main battle tanks.
Program Status:	Currently the SRAW program is finishing up the concept/exploration phase of the program. We currently have five contractors in the competition. During source selection we expect to pick three contractors to participate in a 30-month demonstration/ validation phase. IOC of FY-97 is being planned.
Developers/ Manufacturers:	Ford Aerospace, Hughes Aircraft Company, McDonnell Douglas, Physics International, and Honeywell

Airborne Mine Detection and Surveillance (AMDAS) System

Description:	AMDAS is an Advanced Technology Demonstration (ATD) program focused to provide the Marine Corps with the capability to find mines/minefields and other obstacles in the very shallow water, surf zone, beach, and inland. It will provide real-time, day/night, high resolution, surveillance capabilities, thus, allowing commanders to make timely decisions on routes of assault and/or deployment of countermeasures. No stand-off mine detection capability currently exists in the FMF.
Procurement Profile:	TBD
Why Is It Important?	The mine warfare threat is critical to the amphibious assault. Scatterable mines, emplaced by enemy air, rocket, or artillery assets, are projected to have the ability to stop an assault. This inability to detect the threat is a serious warfighting deficiency.
Program Status:	AMDAS started the ATD development in FY-90. This program is slated for demonstration and validation during FY-93. Pending program approval, full scale development is projected for FY-96.
Developer/ Manufacturer:	The Amphibious Warfare Technology Directorate, MCRDAC is managing the AMDAS Program with the Naval Coastal Systems Center, Panama City, FL acting as Technical Agent.

Distributed Explosive Mine Neutralization System (DEMNS)

Description:	DEMNS is an exploratory development program focused on providing the Marine Corps with the capability to breach mine fields containing hardened or advanced fuzed mines. The concept uses evenly spaced explosives that would effectively cover the area to be breached. The planar explosive wave caused by the detonation of DEMNS produces extremely high overpressures which does not experience a rapid loss of overpressure as do point explosive breaching systems.
Procurement Profile:	In development until FY-98.
Why Is It Important?	The current breaching systems, Line Charge and CATFAE, were designed to neutralize standard pressure mines. The current threat includes hardened mines which current breaching systems have difficulty neutralizing. DEMNS is being developed to neutralize mines regardless of the type of fuzing or mine type. It is effective against the hardened mine.
Program Status:	DEMNS is entering the ATD phase in FY-90. IOC is currently planned for FY-2000.
Developer/ Manufacturer:	MCRDAC (AWT) is managing the development of DEMNS with Naval Ordnance Station, Indian Head, MD the performing laboratory.

Combat Excavator

Description:

The Combat Excavator is a highly mobile, tracked, armored earthmover designed for use by combat engineers in the forward area. This multipurpose vehicle requires a single operator and is equipped with a diesel engine, a hydrostatic transmission, a blade and a hydropneumatic suspension system which gives it excellent heavy digging and rough grading capabilities. The vehicle is capable of self-loading/unloading and transporting eight cubic yards of material. Dozing and scraping are accomplished by raising and lowering the entire front-loading scraper bowl and hydraulically operated apron. In addition, the vehicles' armor protects the operator and vehicle from small arms and artillery fragments. The operator is provided a smoke obscuration capability and chemical/biological protection. The vehicle is capable of high road speeds and can swim in calm water. It is configured for on/off loading in all present airlift aircraft (i.e., C130, C141, and C5) and is compatible with existing U.S. Navy amphibious shipping.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				257

Why Is It Important?

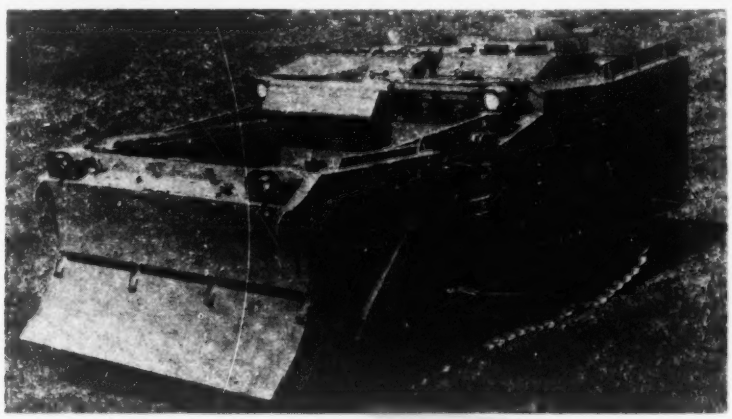
The Marine Corps currently relies on commercial type construction equipment for its combat engineer battalions. This equipment is not responsive to the increased mobility of the ground combat element of the MAGTF. The Combat Excavator will provide a wide range of combat excavations such as: (1) enhancing mobility by creating roads, breaching obstacles, such as antitank ditches and other area denial obstacles and preparing river crossing sites; (2) preparing enemy countermobility obstacles, and (3) preparing hull defilade fighting positions for tanks and infantry fighting vehicles and protected positions for crew-served weapons and other critical battle systems to increase their survivability.

Program Status:

The Marine Corps will employ an off-the-shelf NDI acquisition strategy. The Marine Corps desires to take delivery of their first vehicles in early 1993 with an IOC of 2nd Quarter FY-94.

Developer/ Manufacturer:

BMY Corp., York, PA



Anti-Personnel Obstacle Breaching System

Description:

The two man portable anti-personnel obstacle breaching system (APOBS) will be employed to breach lanes through wire and anti-personnel mine obstacles. As a replacement for the Bangalore Torpedo Demolition Kit, APOBS can clear a 45 meter by .6 meter path, takes two Marines about 30 seconds to deploy and provides for 25 meters of safe stand-off distance. It can be fired with a standard 18 second delay fuze or electrically initiated in the command mode. Its rocket-propelled line charge assembly has 108 high explosive grenades spaced every 17 inches along a 45-meter length of detonating cord. Two small drogue parachutes deploy at the end of the line charge assembly to provide for the proper stand-off and breach distances. The system can be operated in all weather conditions and is suitable for any terrain.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				10,835

Why Is It Important?

APOBS will significantly improve the stand-off breaching capability of infantry and engineer elements against mines, booby traps and barbed wire. The current bangalore torpedoes are extremely burdensome. One bangalore torpedo kit consists of 10 five-foot sections of explosive laden tubing which must be hand assembled, physically pushed into the desired breaching area and then detonated to clear the obstacle. APOBS will provide the same breach capability with two men in 30 seconds that the bangalore torpedo provides with a squad in 15 minutes, and it will enhance breach team survivability.

Program Status:

The Marine Corps will begin procuring APOBS during FY-93 with the system scheduled to be initial operations capable during FY-94. All systems will be delivered by the end of FY-98.

Developer/ Manufacturer:

The PDA is the Naval Coastal Systems Center, Panama City, FL. The DT and OT test systems are being fabricated by the Naval Ordnance Station, Indian Head, MD.

Rigid Raiding Craft (RRC)

Description:

The RRC is a fiberglass boat with twin 70hp motors. It is 18' long and 7' wide with an empty weight of 2400 pounds without engines. The boat has a subdued color scheme and an internal fuel tank with a capacity of 56 gallons. It will carry 10 men and a coxswain in optimum sea states. The RRC is compatible with Navy shipping and can be stacked three high in a special cradle system, for purposes of embarkation.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	164			164

Why Is It Important?

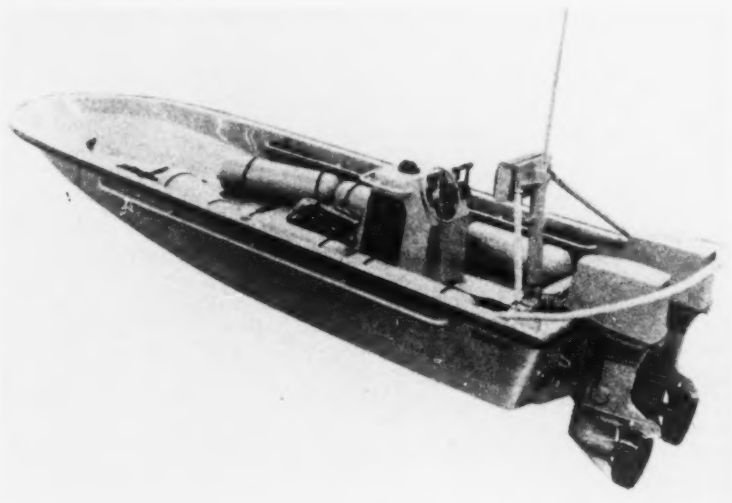
The threat to United States' interests by unconventional enemies has increased significantly. The ability to respond selectively and quickly without becoming committed to protracted operations requires special tactics and equipment. Except for a variety of slow small inflatable rubber boats, the Marine Corps did not have the capability to deliver units carrying out conventional or special missions in high speed, waterborne surface craft. Assault Amphibian Vehicles, Navy landing craft and helicopters have delivery capabilities, but also have disqualifying limitations such as weather, speed, noise, size, and radar signature. With the addition of the RRC, the Marine Corps will gain a high speed, surface, low signature, amphibious method for the insertion and extraction of small units. The RRC will be used for amphibious raids, clandestine recovery operations, limited objective attacks, security operations, and reinforcement operations.

Program Status:

RRC will be procured during FY-90 through a competitive process with delivery expected to commence during 1st Quarter FY-91.

Developer/ Manufacturer:

Boston Whaler Company for the sole source procurement and an unknown source for the competitive action.



Unmanned Ground Vehicle (UGV)

Description:

This program provides the Marine Corps the ability to carry out surveillance, reconnaissance, target acquisition/ designation, control of supporting arms, security, Nuclear, Biological, and Chemical (NBC) reconnaissance, and direct-fire missions while removing the Marine from the most hazardous areas of the battlefield. The Marine Corps has been actively involved in development of teleoperated vehicles for the past seven years.

Procurement Profile:

To be determined

Why Is It Important?

The MAGTF commander has the requirement to prosecute a battle beyond line of site in lethal environments. The projection of warfighting capabilities "over the hill" without the endangerment of valuable personnel will enhance his capabilities while preserving those human resources. A single robot that can perform tirelessly day and night for long periods without resupply requirements, even in contaminated areas, will serve as a significant force multiplier.

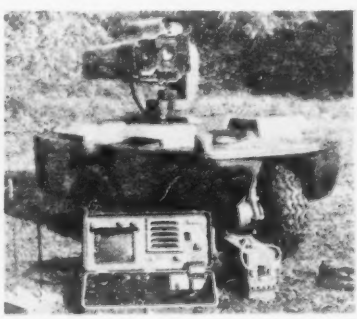
In an era of decreasing manpower, use of a system which carries its own sensors and communications and is expendable, when required, will allow the field unit commander the flexibility he needs to select the time and place of contact and to mass his forces appropriately.

Program Status:

Requirements for both the Marine Corps and Army have been drafted. A Master Plan for Robotics was sent to Congress in May 1989 and a Joint Program Office was formed in Quantico, VA to expedite acquisition of the first unmanned ground vehicle. Three current concept demonstration systems were very successfully demonstrated at Camp Pendleton, CA in September 1989.

Developer/ Manufacturer:

Concept demonstrators—Naval Ocean System Center, HI; Martin Marietta, Baltimore, MD; Grumman Corporation, Bethpage, NY



Small Caliber Electromagnetic Gun (EMGUN)

Description: EMGUN is an ATD program to provide the Marine Corps with the capability to defeat the most advanced infantry fighting vehicles and other light armor vehicles at longer range and with a higher probability of kill than possible with conventional gun technology in sub-cannon caliber. EMGUN uses the state-of-the-art in power generating, advanced materials, and hyper-velocity projected design.

Procurement Profile: Funded by the Department of the Army.

Why Is It Important? Current and projected threat light armored systems including the Warsaw Pact BMP's are formidably difficult targets, with the emerging vehicles virtually immune to all but the most sophisticated guided missiles and battle tank main guns. Because of our expeditionary nature, Marines must be able to defeat these vehicles at extended ranges with weapons organic to Assault Amphibious Vehicles (AAV's) and Light Armored Vehicles (LAV'S). EMGUN promises dramatic increases in range, lethality, accuracy and ammunition capacity, all in a relatively small and light weapon system.

Program Status:

FY-90	Exploratory Development
FY-91/3	ATD
FY-94	Commence Demonstration & Valdiation (DEMVAL)
FY-99	Milestone III
FY-00	IOC

Developer/ Manufacturer: MCRDAC, with Technical Agent ARDEC, Picatinny Arsenal, and University of Texas, Austin, Center for Electro Magnetics

Forward Observer Support Technology

Description: A man-portable modular system comprising small, lightweight, rugged components to assist the forward observer (FO)/forward air controller (FAC) in detection, identification, location, and designation of tactical targets.

Procurement Profile: TBD

Why Is It Important? This system provides the FO/FAC with the ability to detect and identify targets at greater ranges with increased accuracy. It reduces the time necessary to determine target position, enter target description, and digitally transmit the call for fire to the Fire Support Coordination Center/Direct Air Support Center (FSCC/DASC). This increases the speed with which a target can be engaged, and the probability that it will be killed.

Program Status: This project is being pursued by the Naval Surface Warfare Center in Dahlgren, VA. Breadboard components were produced in FY 89. Brassboard components will be produced FY-90.

Developer/ Manufacturer: TBD

Tactical Directed Energy Warfare (TACDEW) Protection

Description: Various eyeshields and optical filters to enhance individual and optical system protection in a Directed Energy Warfare (DEW) battlefield environment.

Procurement Profile:

	PRIOR	FY-90
R&D Funding ($M's)	3.6	5.3

Why Is It Important? The advent of laser devices on the battlefield and the use of these devices as directed energy weapons has been documented. As the number, diversity and effectiveness of these weapons increases, we must provide protective measures to our optical systems and Marines. Systems are being developed to provide adequate protection against a wide variety of laser threats while not degrading the level of performance of the protected system or the ability of Marines to accomplish the mission.

Program Status: The Ballistic Laser Eye Protection (BLEPS) System has been fielded against the first generation of threat lasers. The Marine Corps is participating in several joint-service development programs to provide useful multi-spectral protection systems for emerging laser weapons. IOC is currently scheduled for FY-2000.

Developer/ Manufacturer: MCRDAC

HMMWV NBC Recon System (HMMWV NBCRS)

Description: HMMWV NBCRS is an ATD program which integrates a suite of advanced chemical agent detectors and associated NBC equipment on an M997, Maxi-Ambulance HMMWV chassis. The advanced onboard equipment will include a mass-spectrometer, stand-off IR detector, automated surface sampler and radiac detector. Additional systems will be integrated to provide local meteorological analysis, navigation, and automated warning/reporting capability. An autonomous control system will be tested with the HMMWV NBCRS for remote system operation using fiber optic link.

Procurement Profile: Pending program approval.

Why Is It Important? The HMMWV NBCRS ATD will provide a relatively inexpensive test bed for evaluation of future concepts for NBC detection, sampling, contamination marking, and warning and reporting. A validated HMMWV NBCRS concept will provide the MAGTF commander with a rapid NBC reconnaissance platform for reliable intelligence gathering and hazard prediction. Rapid and reliable NBC reconnaissance is a critical requirement for maneuver warfare in an NBC environment.

Program Status: HMMWV NBCRS ATD was initiated in FY 89. Preliminary Design Review (PDR) was held September 1989.

Developer/ Manufacturer: MCRDAC(AWT) has program management responsibility for HMMWV NBCRS. The PDA is the U.S. Army, Chemical Research Development and Engineering Center (CRDEC).

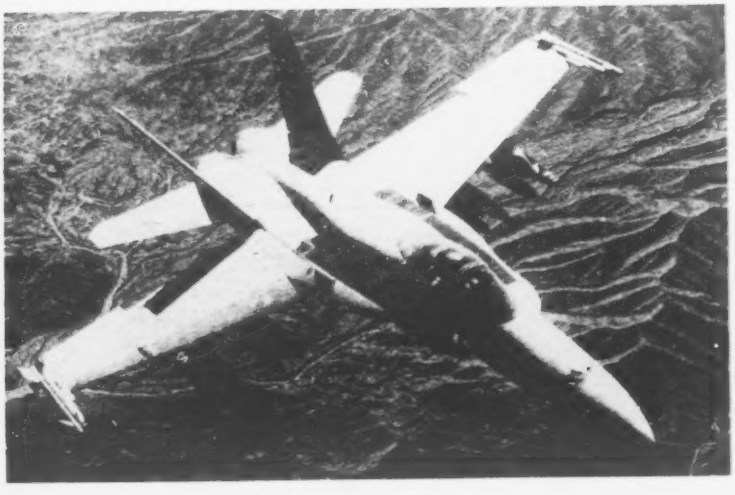
Aviation Combat Element Introduction

The MAGTF's Aviation Combat Element (ACE) provides the MAGTF commander with a force multiplier, ready for deployment and employment, that is capable of meeting the MAGTF's requirements for tactical air support across the spectrum of conflict. In meeting these requirements, the ACE performs the following six functions.

1. **Anti-Air Warfare** permits MAGTF ground force operations uninhibited by enemy air forces.
2. **Offensive Air Support** isolates the battlefield and provides timely and accurate close air support.
3. **Assault Support** insures the rapid build up of combat power ashore and provides the means to quickly maneuver ground forces on the battlefield.
4. **Aerial Reconnaissance** provides the MAGTF commander with tactical information which can be used to influence MAGTF operations.
5. **Electronic Warfare** neutralizes enemy radars in support of ACE operations and provides the MAGTF commander with tactical information which is used to update the enemy order of battle.
6. **Control of Aircraft and Missiles** provides the MAGTF commander with the capability to effectively use the ACE assets to favorably influence combat operations.

The ACE provides the MAGTF enormous flexibility, mobility, and firepower. Aviation weapons systems are selected and designed to enhance and complement the Corps' expeditionary nature. Aviation's primary goal is to provide dedicated day/night air support to the MAGTF.

The aviation weapon system programs in this section take advantage of new technology to offer the MAGTF greater, more accurate firepower, faster, more versatile movement to battle, detailed, timely intelligence, and many other capabilities required of a modern expeditionary fighting force.



AV-8B "Harrier"

Description:

The AV-8B is a single seat, transonic, vectored thrust, light attack aircraft, capable of increased payloads, range, endurance, and improved reliability and maintainability over the AV-8A. The V/STOL design gives it the capability to operate from a variety of land and sea based air facilities. It is configured with the Angle Rate Bombing System (ARBS) which provides an extremely accurate first pass attack capability and high kill probability through the use of passive laser spot or TV tracking. AV-8B's delivered after September 1989 incorporate a greatly enhanced night capability with Night Vision Goggle compatible lighting, a digital moving map, and a Forward-Looking Infrared Sensor.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	228	24	24	323

Why Is It Important?

An expeditionary force like a MAGTF has limited assets of organic heavy artillery and tanks relying instead on its ACE to provide the required fire support. The vertical/ short take off and landing (V/STOL) capability of the AV-8B is well-suited for providing dedicated close air support to Marine ground forces. Offensive air support aircraft requiring conventional airfields for take-offs and landings are limited by the proximity and availability of supporting facilities. The AV-8B offers a quantum leap forward in basing options. It can operate from ships as small as a LPH, from rapidly built expeditionary airfields, from forward sites like roads or temporary "V/STOL pads" as small as a 72 ft x 72 ft, and from conventional airfields. By forward siting and operating at shorter distances from the battle area, tactical air request response times are reduced.

Program Status:

Transition to an all V/STOL light attack force of eight operational squadrons and one training squadron is approximately 85 percent complete. Current plans envision eventual introduction of the AV-8B into the Reserves.

Developer/ Manufacturer:

McDonnell Douglas

F/A-18 "Hornet"

Description:

The F/A-18A is a twin-engine, single piloted, supersonic strike fighter aircraft. The Hornet fulfills both air-to-air and air-to-ground mission requirements and can be operated from conventional and expeditionary airfields or from aircraft carriers. The F/A-18 incorporates state-of-the-art technology such as digital fly-by-wire flight controls, multimode radar and lightweight composites. F/A-18C's delivered in FY-90 and future years will incorporate an increased night and marginal-weather capability, which includes a color digital moving map display, Night Vision Goggle-compatible lighting, and Forward-Looking Infrared (FLIR) sensors. A two-seat version, the F/A-18D, incorporates all the warfighting capabilities of the F/A-18C and will include a tactical reconnaissance capability.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
DON	746	66	66	
USMC	189	16	25	509

Why Is It Important?

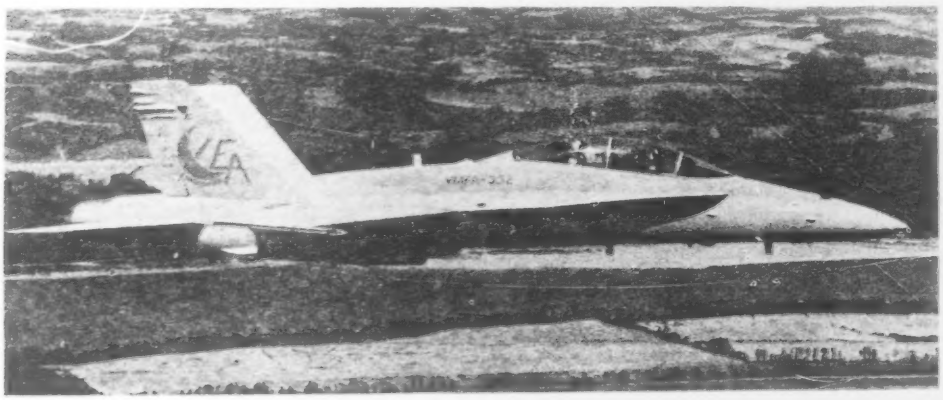
The F/A-18 provides a modern multi-mission offensive and anti-air capability to the MAGTF. The F/A-18D will replace the RF-4B, OA-4/TA-4, and A-6E. The F/A-18D provides the MAGTF with a platform capable of tactical reconnaissance and tactical air control while retaining the offensive and defensive anti-air capabilities of the F/A-18A/C. Advanced avionics allow the pilot to accurately navigate to and strike or photograph enemy ground targets and to destroy enemy aircraft. The Hornet's versatility makes it deployable, sustainable, and effective across the spectrum of conflict. Increased operational reliability has improved the F/A-18 sortie rates while superior aerodynamic design, maintainability, and multi-mission capability make it particularly well-suited to an austere expeditionary environment.

Program Status:

The 12 active Marine F-4 squadrons and one Reserve squadron completed transition to the F/A-18 in FY-89. The first F/A-18D squadron will stand up during FY-90.

Developer/ Manufacturer:

McDonnell Douglas



F/A-18 ATARS

Description:

The Advanced Tactical Reconnaissance System (ATARS) is a digital sensor suite designed to provide real-time tactical intelligence. The ATARS suite will be comprised of low and medium altitude electro-optical sensors, an infrared sensor, tape recorders, and data link. The ATARS will be carried on the reconnaissance capable F/A-18D.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				31

Why Is It Important?

Timely, accurate intelligence is vital to a MAGTF commander. Since the MAGTF may be operating independently without access to other tactical, theatre or national intelligence gathering assets, it requires an organic tactical air reconnaissance capability. The ATARS equipped F/A-18D will allow day and night near real-time intelligence to be provided to the MAGTF commander. At this time, the RF-4B sensor suite accomplishes the reconnaissance mission but is becoming more difficult and costly to support as the F-4 is phased out of the Marine Corps' inventory. The F/A-18D equipped with ATARS provides the capability to accomplish reconnaissance taskings without dedicating an airframe solely to the reconnaissance mission. The Hornet, with ATARS installed, will still retain all its capabilities as a superior strike fighter with the exception of the nose gun, which will be removed for installation of ATARS during reconnaissance missions. ATARS digital imagery sensors significantly reduce the support required over film systems, thus reducing logistical and manpower burdens on the MAGTF.

Program Status:

Expansion of the active F/A-18D force from 48 to 72 aircraft has increased the requirement for F/A-18 ATARS to 48 systems. The ATARS program is currently funded to provide a total of 31 systems, the last two in FY-95. IOC is scheduled for FY-94.

Developer/ Manufacturer:

Control Data Corporation

EA-6B "Prowler"

Description:

The EA-6B is a four-place, twin-turbojet aircraft with a fully integrated, computer-controlled electronic warfare system. The aircraft is deployable from austere shore bases or aircraft carriers. The EA-6B's ALQ-99 Tactical Jamming System consists of on-board receivers and up to five externally-mounted Electronic Countermeasure (ECM) pods. The Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) provides pre-mission intelligence and post-mission processing. The EA-6B is capable of employing the AGM-88 High-speed Anti-Radiation Missile (HARM).

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity			
DON	118		3*
USMC	18		

*Designates remanufacture vice new procurement. Distribution schedule of aircraft between Navy & USMC to be determined.

Why Is It Important?

The Marine Corps requires the EA-6B tactical electronic warfare (EW) aircraft to protect and screen USMC offensive air support aircraft. This aircraft denies the enemy effective use of early warning, ground control intercept, surveillance/acquisition and terminal threat (gun & surface-to-air missile) radars. In addition to tactical battlefield jamming support, the EA-6B is essential to aircraft survival on the modern electronically-dominated battlefield.

Program Status:

Procurement of new production EA-6B aircraft was discontinued in FY-89. Marine Reserves are scheduled to receive six DON EA-6Bs in FY-92/93 bringing the USMC total to 24 aircraft. Beginning in FY-91 existing inventory (estimated to be approximately 109 aircraft in DON) will be remanufactured into the next version of the EA-6B, the ADVCAP or Advanced Capability "Prowler". The ADVCAP will provide a significant increase in all capabilities that make this aircraft so vital to the Marine Corps today. Current force levels provide a meaningful warfighting capability. Lack of new production coupled with attrition may preclude the Reserve transition to EA-6Bs.

Developer/ Manufacturer:

Grumman Aircraft

KC-130T "Hercules"

Description:

The KC-130T is a multi-engine, land-based tanker aircraft which satisfies the Marine Corps tactical air refueling requirement for both fixed-wing and rotary-wing aircraft. A more reliable and maintainable aircraft in comparison with its predecessors, the KC-130T is the newest model of the venerable KC-130 series and has much improved avionics, as well as a pylon-mounted fuel capacity of an additional 2,720 gallons of fuel.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	14	2	2	

Why Is It Important?

A tactical air refueler, like the KC-130, increases the endurance and range of aircraft providing the MAGTF commander with greater flexibility in assigning aircraft to missions in support of the ground scheme of maneuver. The KC-130 has a secondary mission of assault support to include the air transport of personnel, equipment, and supplies into expeditionary airfields. The KC-130 is an important link in the overall air support the ACE provides to the MAGTF. As more MAGTF aircraft become self-deployable using air refueling, new KC-130s are required to keep pace with emerging deployment concepts and to meet the requirements of other expeditionary operations.

Program Status:

The Reserve KC-130T force modernization is contained in the FY-91 budget request.

Developer/ Manufacturer:

Lockheed Aircraft Corporation

Medium Lift Replacement (MLR) Aircraft

Description:

The "MLR" is the notional name which has been given to the aircraft which will replace the Corps' aging CH-46E and CH-53A/D force. The exact type aircraft is undetermined. During the April 1989 Defense Resources Board (DRB), the Secretary of Defense directed the development of the necessary replacement aircraft. Subsequently, Congress directed a formal Cost and Operational Effectiveness Analysis (COEA) to evalaute all reasonable alternatives including, but not limited to the CH-53E, BV-360, EH-101, CH-46E, and CH-60 aircraft or any combination thereof. The Institute for Defense Analysis (IDA) is conducting the COEA. The COEA is expected to be completed during March 1990.

Procurement Profile:

TBD

Why is It Important?

The MLR will be the backbone of the Corps' assault support force as it enters the 21st century. It provides the MAGTF with an assault support aircraft with the speed, endurance, and battlefield survivability needed to fight and win on tomorrow's battlefield. It will represent a significant improvement in tactical capability and will replace our current force of CH-46E's and CH-53D's. A replacement for this critical component of our air-ground fighting force is of the highest priority.

Program Status:

Efforts are underway to satisfy the requirements for this vital mission need.

A medium lift assault aircraft to replace the pre-Vietnam CH-46 helicopter shown above, is the Marine Corps number one aviation priority.

CH-53E "Super Stallion"

Description:

This 3-engine heavy lift helicopter is designed to lift 16 tons over a 50 nautical mile combat radius using a dual point pendant system. It has a seven blade 79-foot diameter main rotor head and a canted 20-foot diameter tail rotor. This shipboard-compatible assault support helicopter is employed for the movement of internal cargo, the recovery of tactical aircraft, and the external lifting of weapons and equipment. It is the free world's largest helicopter.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	102	10	23	191

Why Is It Important?

The CH-53E is the Marine Corps' only heavy lift support helicopter. The CH-53E, along with the MLR and the LCAC, forms the cornerstone of an assault support force required for the tactical movement of heavy weapons and equipment during over-the-horizon amphibious assaults, subsequent operations ashore, or during expeditionary operations. The CH-53E provides the ground combat commander the operational flexibility to reposition artillery and LAVs, recover heavy equipment and aircraft, and deliver supplies and fuel to forward sites. The ability to self-deploy by use of air refueling enhances its deployment capability in support of expeditionary operations.

Program Status:

Future aircraft programming will address both heavy lift and MLR requirements. Additional procurement may be required for heavy lift to meet the Marine Corps' minimum heavy lift requirement of six operational squadrons of 16 CH-53E's, plus training, pipeline and attrition aircraft.

Developer/ Manufacturer:

Sikorsky Aircraft

AH-1W "Super Cobra"

Description:

The AH-1W (formerly called the AH-1T +) is a two-place, tandem-seat, twin-engine attack helicopter capable of land or sea based operations. Its primary mission is to provide attack helicopter fire support and fire support coordination. Since initial procurement in 1968, improvements to the Sea Cobra include; Night Vision Goggle compatible cockpit, Heads Up Display, crashworthy fuel system, and the capability to fire a variety of weapons to include TOW/ HELLFIRE (anti-armor), SIDEWINDER (antiair), and SIDEARM (anti-radar). The aircraft incorporates two GE T-700 engines, which results in a quantum improvement in high/hot operations and safety of flight.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	78	6		164

Why Is It Important?

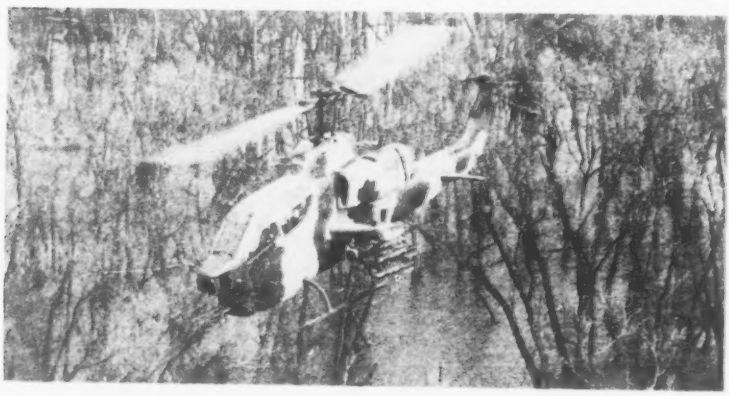
The AH-1W is the only Marine Corps attack helicopter. It fulfills the mission requirement to provide enroute protection to the assault force embarked in assault helicopters. Further tasking requirements include: conduct armed and visual reconnaissance, provide point and limited area defense from threat fixed wing aircraft, conduct anti-helicopter operations, and conduct point target and anti-armor operations. The versatility of the Super Cobra provides the MAGTF Commander with a significant force multiplier in both offensive and defensive ground combat.

Program Status:

FY-89 appropriated funds provide for the completion of the program procurement of site support equipment to include: a flight simulator, maintenance training equipment, publications, software support, and peculiar ground support (maintenance) equipment. In addition to the AH-1W procurement shown, 35 AH-1Ts are being converted to the more capable AH-1W during FY-88 through FY-93, bringing the total Marine inventory to 113 aircraft to support seven active duty squadrons which includes one training squadron. Beyond the six AH-1W's in the FY-90 Authorization Act, additional procurement will be required to transition the two Reserve AH-1J squadrons to the AH-1W and meet requirements for attrition aircraft.

Developer/ Manufacturer:

Bell Helicopter Textron



Hellfire

Description: Hellfire is the primary stand-off anti-armor weapon system for the Marine Corps' AH-1W and the Army's AH-64. The 100 pound missile has a semiactive, laser terminal, homing seeker.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	1,962	1,098	1,198	14,092

Why Is It Important? The employment of Hellfire improves the survivability of the Marine Corps' AH-1 helicopter on the battlefield. Hellfire provides an increased standoff capability combined with a considerably improved kill potential over present antitank guided missiles. Hellfire's range of greater than 7,000 meters significantly exceeds TOW's maximum range of 3,750 meters. With the indirect fire and lock-on after launch firing modes, Hellfire does not expose the launch aircraft to the enemy during the missile launch and guidance sequence as TOW presently does. Hellfire's armor penetration/kill potential is greater than TOW.

Program Status: The Hellfire missile program successfully completed OPEVAL and initial deliveries of 1,000 production missiles have been made to the FMF.

Developer/ Manufacturer: Rockwell International/Martin Marietta

Stinger

Description: Stinger is a man-portable, visually-aimed, shoulder-fired, surface-to-air defensive weapon system designed to counter the low altitude air threat. The weapon can engage jet and helicopter aircraft from all firing aspects, including head-on. Stinger employs a passive infrared seeker and advanced guidance system which assures precision intercepts forward of the jet plume of high-speed aircraft. The Stinger system is designed to meet the air threat of the 1990s. It also incorporates an identification friend or foe (IFF) interrogator and advanced infrared countermeasures circuitry.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	11,318			

Why is It Important? Stinger is essential to the air defense of the MAGTF. It is the short range component of the MAGTF's air defense system. Stinger's portability and simplicity give the MAGTF a mobile, ground-based air defense capability in the early stages of an amphibious operation or during sustained combat operations ashore. Its effectiveness is well documented in recent regional conflicts.

Progam Status: The Marine Corps' goal is procurement of sufficient Stinger missiles to engage the assigned threat.

Developer/ Manufacturer: General Dynamics
Second Source: Raytheon

Lightweight Early Warning Detection Device (LEWDD)

Description:

LEWDD is a lightweight, man-portable, surveillance and detection device to alert and cue Stinger gunners to the approach of hostile aircraft. The Marine Corps seeks a non-developmental sensor which is simple and robust with the following capabilities:

- All-weather 20-kilometer coverage
- Man-portable subassemblies with a total combined weight of 340 pounds or less
- Vehicle or battery powered
- Setup time of five minutes or less

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	10	10	26	46

Why Is It Important?

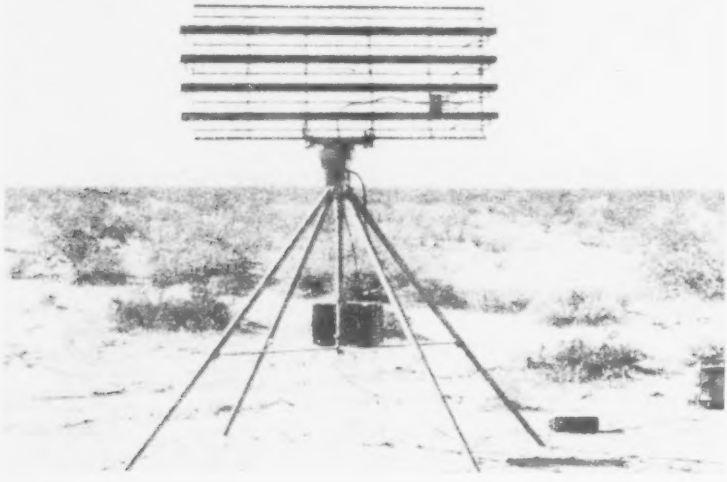
Stinger, while highly effective, is limited by the visual acuity of the gunner. LEWDD will correct this deficiency by allowing the detection of hostile aircraft beyond the eyesight of the Stinger gunner, thereby exploiting the inherent effectiveness of the Stinger missile itself.

Program Status:

Low rate initial production has been approved. Upon completion of Follow-on Test and Evaluation (FOT&E) a full scale production decision is expected in FY-91.

Developer/ Manufacturer:

Lear Astronics



Aviator's Night Vision Imaging System (ANVIS), AN/AVS-6

Description: ANVIS is a third-generation image intensifier designed specifically for aviators. The system provides lightweight design, "look-around" peripheral vision, easy installation, and enhanced safety during night flight operations.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	3,589			

Why Is It Important? The capability to fly at night is essential for combat operations on the sophisticated battlefield. ANVIS is the first night vision system designed specifically to provide helicopter pilots with the capability to fly at low altitude at night in a hostile threat environment. ANVIS will allow the MAGTF commander to employ helicopters more effectively in support of the MAGTF scheme of maneuver.

Program Status: FMF introduction began in 1986. Full capability is expected during 1992.

Developer/ Manufacturer: ITT

Radar Warning Receiver, APR-39XE-2

Description: The APR-39XE-2 is a joint Army/Navy/Marine Corps program to develop a lightweight, low cost radar warning receiver (RWR) for use on Army Special Electronic Mission (SEMA) aircraft and on all USMC Helo/OV-10/MLR platforms. The system will integrate multiple warning systems to provide one standard display.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity			109	621

Why Is It Important? The APR-39XE-2 makes Marine helicopters, OV10s and MLR aircraft more survivable against current and future threat systems by providing timely threat identification and location and by integrating multiple EW system displays and functions.

Program Status: The program is in full scale engineering development. The first two engineering development models (EDMs) have been delivered, and DT/OT is being conducted on the AH-1W.

Developer/ Manufacturer: Dalmo Victor

Laser Warning Receiver, AN/AVR-2

Description: The AN/AVR-2 is an Army lead, multi-service program to develop a laser warning receiver, which receives, processes and displays warning to the crew of aircraft illuminated by threat laser systems.

Procurement Profile:

	PRIOR	FY-90	FY-91	AC
Quantity	—	42	99	330

Why Is It Important? The number of lasers and guided weapons on the modern battlefield has continued to increase. The AVR-2 will interface with the APR-39XE-2 display to provide laser threat warning to Marine Corps helicopters and OV-10 crews, decreasing their vulnerability and increasing survivability.

Program Status: Operational evaluation has been completed on the AH-1J. Follow-on test and evaluation will be accomplished on the UH-1 and OV-10. The Milestone III production decision was made in July 1989.

Developer/ Manufacturer: Perkin Elmer Optical Group

Missile Detection System, AN/AAR-47

Description: The AN/AAR-47 detects incoming missiles and provides an automatic signal for ejection of expendable countermeasures (e.g., flares) to protect the aircraft. Aircrew are also provided indications of threat direction on existing aircraft warning displays.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	484	226	242	836

Why Is It Important? The AN/AAR-47 will provide all Marine rotary wing aircraft and the OV-10 with the necessary protection to operate more effectively in a hostile environment now populated by a wide variety of diverse infrared surface-to-air missiles.

Program Status: Sufficient AN/AAR-47 systems have been programmed to meet USMC helicopter, OV-10, and MLR requirements. The applicability of the AN/AAR-47 for high performance, fixed-wing aircraft is presently under evaluation.

Developer/ Manufacturer: Honeywell

Portable Heliport Landing Set (PHLS)

Description:

The PHLS is a low-risk, streamlined acquisition program which integrates non-developmental items such as radio receivers, landing zone marker lights, and a glide angle indicator light to provide a visible/infrared capable landing aid for night vertical assault operations.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				320

Why Is It Important?

The Portable Heliport Light Set is the terminal landing and guidance system which will assist helicopters and V/STOL aircraft in identifying and safely landing in designated landing zones. Increased capabilities such as infrared lights, remote control activation, and size reduction make this a highly flexible and effective system. The PHLS will replace equipment which is antiquated and no longer supportable.

Program Status:

System is in FSD phase. Expect final contract award (R&D with Production Option) 2nd Quarter FY-90. User test of pre-production PHLS slated to begin 4th Quarter FY-90. IOC during 1st Quarter FY-93 is planned.

Developer/ Manufacturer:

Advanced Computer Systems, Inc.

Hawk Mobility/Survivability Enhancement

Description:

HAWK is a semi-active, radar guided surface-to-air missile. It is designed for particular effectiveness at low and medium altitudes. The HAWK Mobility/Survivability programs major elements include; launcher conversion to Phase III digital electronics, replacement of heavy data cables with field wire, and a digital capability to launch other air defense missiles. This program will provide an initial HAWK engagement capability in only two trucks. It also utilizes a stored energy hydraulic system that significantly reduces the tactical power required to operate the launcher, it also decreases setup time. The final piece is a tactical hand-held computer that will allow the HAWK system to operate without any cables using radio data links. This will allow the HAWK system to cover significantly more area than ever before and allow it to move forward to cover the Forward Edge of the Battle Area.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				25

Why Is It Important?

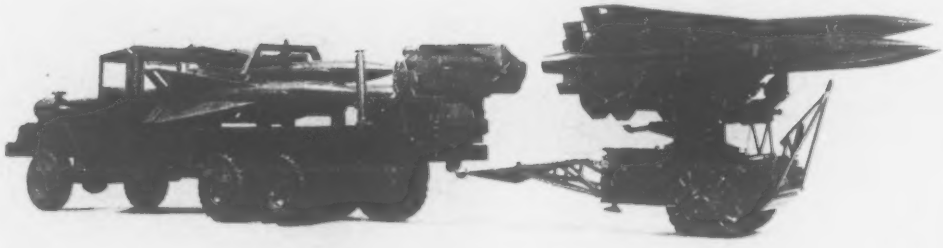
HAWK is essential to the air defense of the MAGTF. HAWK mobility/survivability will give us a digital state of the art launcher that can hold and fire other air defense missiles. It will also increase the mobility of the HAWK battery by reducing emplacement time. Using the new portable computer the HAWK equipment will be dispersed over many miles instead of grouped together this will increase our survivability against attack and allow us to cover more airspace.

Program Status:

This is a joint Army/Marine Corps program. We have programmed sufficient funds to complete R&D.

Developer/ Manufacturer:

Raytheon Corporation



Pedestal Mounted Stinger (PMS)

Description:

Pedestal Mounted Stinger (PMS) consists of a fire control unit module which includes a rotatable turret with two missile launching platforms, each containing four ready-to-fire Stinger missiles, a predicted fire weapon .50 cal machine gun, and a gunners station mounted on a HMMWV. The system incorporates a FLIR sensor to provide for day/night and adverse weather target tracking. The laser range finder provides target range for the gun solution, and ensures missile engagements are conducted within the missile envelope. An operator's display and controls provide the man-machine interface to control engagements, monitor system status, and receive, display and transmit C2I data and information. A remote control unit allows operation of the system up to 50 meters from the system, enhancing crew survivability in a static employment. Stinger missiles may be reconfigured into a man-portable air defense system.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				275

Why Is It Important?

PMS will fulfill the requirement for a mobile, low altitude, air defense system capable of rapid deployment and 24-hour operations. It will improve engaement time, increase firepower, reduce displacement time, and provide a night engagement capability. Its shoot-on-the-move capability will add a new dimension to short range air defense.

Program Status:

PMS currently in production for the U.S. Army as an NDI system. All testing completed with successful results. The Marine Corps has an approved ROC for PMS for a total procurement of 275 systems. An IOC of FY-93 is being planned.

Developer/ Manufacturer:

Boeing Aerospace Corporation

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Combat Service Support Element (CSSE)
Introduction

The CSSE is a task organization tailored to provide that combat service support to the MAGTF which is beyond the organic capability of the GCE and ACE. Depending on the assigned mission, it is task organized to provide any or all of the following functions: supply, maintenance, deliberate engineering, medical/dental, automated data processing, personal services, food services, transportation, military police, disbursing and financial management. It is capable, to a limited extent, of providing smaller task organizations such as maintenance/supply contact teams for support of MAGTF operations as required.

The Marine Corps has several programs designed to improve the Marine Corps' capability to provide logistics support to the MAGTF commanders. A discussion of the most important of these programs follows.

Ground Ammunition Program

The Marine Corps' FY-91 ground ammunition budget request total $284.7 million. The FY-90 and FY-91 program is broken down by ammunition category as follows:

ITEM	FUNDING REQUEST ($MILLIONS)	
	FY-90	FY-91
Artillery (155mm/8 inch)	53.8	22.5
Tank (M1A1)	44.2	60.7
Mortar	29.1	32.2
Small Arms	33.3	62.4
Other *	88.8	106.9
Total	$249.2	$284.7

*Includes pyrotechnics, grenades, rockets, etc.

In keeping with DoD guidance, the Marine Corps program ensures readiness and sustainability. The current program provides for a balanced procurement of both war reserve and training ammunition to meet the needs of the Marine Corps within approved funding levels.

The M1A1 tank line consists of 120mm ammunition. The 120mm ammunition consists of a high explosive antitank (HEAT) round, an armor piercing fin stabilized discarding sabot (APFSDS) round and two target practice rounds.

The mortar line consists of the 60mm HE, illum and smoke WP rounds for the M224 LWCMS, and 81mm rounds for the new M252 improved mortar system.

The highlights of the artillery ammunition request are shown below:

Artillery Ammunition

ITEM	QUANTITY		$ MILLIONS	
	FY-90	FY-91	FY-90	FY-91
155mm Baseburner	7,897	7,415	5.9	6.2
155mm Chg Prop WB	34,643	72,906	2.8	7.5
155mm Chg Prop GB	35,302	68,091	1.9	4.5
Fuze, ET M762	0	99,674	0	7.0
Fuze, ET M767	0	36,949	0	3.0
TOTAL			10.6	28.2

Electronic Maintenance Complex (EMC)

Description:

The EMC is a maintenance facility which provides an environmentally controlled work area for a variety of maintenance requirements. The EMC is comprised of an International Organization for Standardization (ISO) shelter, easily relocatable Internal Appointment Modules (IAM's) and a Standard Adaptation Package. The size of an ISO shelter may be 8'x 8'x 10' or 8'x 8'x 20'. The ISO shelter may be used as an electromagnetic base or as a rigid, general all purpose element. An EMC may consist of one shelter or two or more shelters complexed together to meet mission requirements.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	492	223	362	1,303

Why Is It Important?

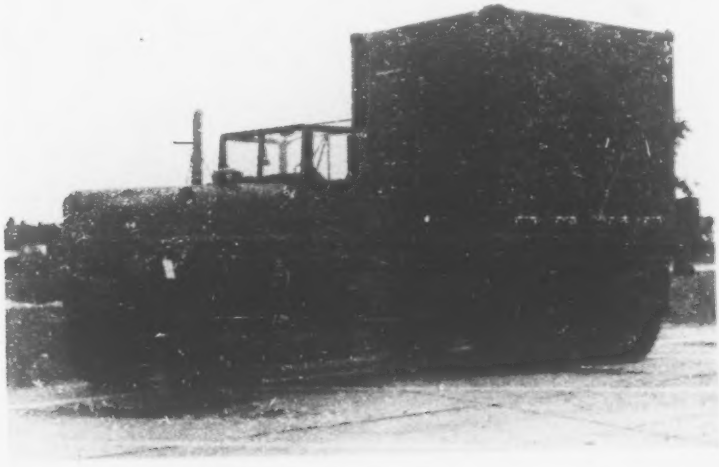
The increased sophistication of currently fielded systems requires sophisticated mission support capability. The EMC will replace existing antiquated/obsolete maintenance facilities and provide housing for new maintenance support capabilities (Marine Corps Automatic Test Equipment System, Electro-Optics Repair Facility, Artillery Repair Facility, Electronic Calibration Facility, Mechanical Calibration Repair Facility, Electronic Test Measurement Diagnostic Repair Facility).

Program Status:

The EMC is currently on contract. First Article Testing (FAT) has been completed. Delivery of production items began in October 1989.

Developer/ Manufacturer:

Brunswick Corp.



Fuel/Water Storage and Pump Modules (SIXCONs)

Description:

SIXCONs provide the capability to store and transport up to 900 gallons of liquid in a single module. The SIXCON pump module provides the capability to pump fuel or water from SIXCON storage modules at a rate of 125 gallons per minute. Each module has forklift tineways on all sides and can be helo-lifted or transported on trucks or containerships. With the advent of these modules comes a greatly increased capability and flexibility. Both fuel and water can be transported to forward elements of a MAGTF in variable quantities by the most effective means available on land or by air.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		F/W	F/W	F/W
Fuel/Water Storage	2516/2506	432/406	50/50	3015/2987
Fuel/Water Pump	553/ 402		29	553/ 431

Why Is It Important?

The SIXCON modules were designed and are expected to fill the void left by the reduction in specialized tankers (M49/M50). The SIXCONs can be used individually or in combination of up to six modules (5 storage and 1 pump). They can be connected so that six modules form an 8' x 8' x 20' container.

Program Status:

The first contract award was in 1985. All Fuel/Water Modules required for MPS are embarked. Water module IOC achieved in FY-89. Fuel modules scheduled for IOC in FY-90.

Developer/ Manufacturer:

Isometrics, Sharman, Peabody-Barnes

NBC Defense Program Highlights

Description: The **M40/42 series** of field protective masks will replace the M17 (general purpose), M25 (vehicle crewman), and M9 (heavy duty) masks during FY-89. Principal changes include an external canister, additional voicemitter, and improved protection.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	61,265	43,064	52,555	276,000

Description: The **Chemical Agent Monitor (CAM)**, to be fielded in FY-92, is a hand held, man-operated device for monitoring blister and nerve agents and contamination on personnel and equipment.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				2,060

Description: The **Individual Chemical Agent Detector (ICAD)** will be a lightweight, battery-operated detection device employed to determine the presence of attack concentrations of chemical agent vapors and warn of the need to take appropriate protective measures.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity			618	2,774

Description: The **Portable Collective Protection System (PCPS)** is a lightweight, expendable collective protection tent which will support small command and control units and will provide rest and relief for these units which must operate in a contaminated environment for extended periods. It is targeted for FY-90 fielding.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		120	120	3,049

Description: The **M21 remote sensor chemical agent** alarm can detect chemical agent clouds at a distance of up to five kilometers. We plan on fielding this device in FY-93.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				198

Description: The **M291 Decontamination Kit** will also be fielded in FY-91 to support the decontamination of a Marine's individual equipment.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity			100,000	300,000

Why Is It Important?

The MAGTF requires an increased ability to survive and continue to operate in an NBC environment. Better protection and means which will minimize the operational and logistics impact of NBC defense are a must because the threat is formidable. Soviet and Warsaw Pact forces are better equipped, structured, and trained to conduct offensive and defensive chemical warfare than any other military forces in the world. Recent activities in the Iran-Iraq conflict suggest that chemical weapons are proliferating throughout the globe.

Program Status:

The equipment being fielded will support rapid decontamination either at or near the point of contamination, allowing the unit to continue to fight. New NBC protective overgarment suits provide increased protection for longer periods. All equipment is more easily maintained and more reliable than the equipment replaced. Marines will soon have the capability to conduct extended operations in an NBC environment.

Developer/ Manufacturer:

PDA Chemical Research, Development and Engineering Center (CRDEC), Edgewood, MD and USA Natick RD&E Center, Natick, MA.

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Ribbon Bridge Transporter (MK-18)

Description: The MK-18 is a rear body unit of the Logistics Vehicle System that is designed to provide a self-loading and unloading capability for the ribbon bridge, bridge boat, and all ISO-configured containers, shelters and modules in the field logistics system. The MK-18 is transportable by CH-53, C-141 and C-5.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity		100		530

Why Is It Important? The Marine Corps requires the capability to transport, load and unload the ribbon bridge at river crossing sites. Additionally there is a serious shortfall to move, load and unload ISO-configured shelters, containers and modules within the AOA. The MK-18 will provide a reliable, fast and efficient way to accomplish the mission.

Program Status: The system has finished extensive testing at both Aberdeen Proving Ground, MD, and the Motor Transport Test Site at Quantico. Contract award is expected during the 2nd Quarter of FY-90 with an initial allowance of 320. Long range plans call for the conversion of all the present MK-14 units in the fleet to self-loading MK-18's. IOC of FY-90 is planned.

Developer/ Manufacturer: T. T. Baughton and Sons LTD.

4

Training and Education

Introduction

The Marine Corps has established the Marine Air Ground Training & Education Center (MAGTEC) at the Marine Corps Combat Development Center (MCCDC), Quantico, VA to provide more effective management of Marine Corps training and education as a total system. The MAGTEC is chartered to develop policies and programs for the training and education of regular and reserve Marines. This responsibility includes:

- Management and direction of training and education programs and initiatives.
- Training analysis.
- Publication and evaluation of training standards for all categories of training conducted in Marine Corps units and institutions.
- Allocation and management of training resources to achieve maximum training effectiveness.

Marine Corps training programs continue to be realistic, innovative, and performance oriented. To accomplish this goal, the Marine Corps will participate in 190 joint, active and reserve exercises in FY 90.

The Marine Corps has increased the number of units participating in training exercises and made the scenarios more realistic. Commanders will be able to evaluate their unit's performance and the effectiveness of their contingency plans in realistic weather, terrain, and threat situations.

The Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, CA has the mission to conduct realistic training in the integration of supporting arms and to evaluate the combined arms capabilities and readiness of all MAGTF elements.

The "Combined Arms Exercise" (CAX) has been developed to specifically support MCAGCC's mission. The standard scenario contains an enemy equipped with current Soviet weapons and employing Soviet doctrine. Although the sequence and circumstances vary, standard events for a CAX are: (1) command post displacements; (2) deliberate attacks on fortified positions requiring combined arms fire support; (3) a night helicopterborne assault of company size; (4) development of barrier and defensive fire plans; (5) the use of MILES gear for force on force training that aligns the CAX with combat situations; and (6) the use of "frag" orders after the first day to enhance realism and to increase the demands on the unit's command and control process.

Ten CAXs are conducted at MCAGCC each year. The Mojave Desert training site is a realistic maneuver area that permits the use of live ordnance of all types during the exercise. Lessons learned from CAXs are incorporated into doctrine, tactics, and equipment development.

The Marine Corps Mountain Warfare Training Center (MCMWTC) in Bridgeport, CA provides instruction in the basic and advanced techniques of mountain warfare. Moreover it is an ideal location to train for our strategic roles in northern Europe and the western Pacific. 12,000 Marines are trained annually in mountain warfare and cold weather operations.

Each year, Marines participate in joint or combined training exercises around the world. These include Teamwork, Northern Wedding/Bold Guard, Bright Star, Big Pine, Team Spirit and Display Determination. These training exercises have been successful and have strengthened our joint and combined operations capability.

The Marine Aviation Weapons and Tactics Squadron-One (MAWTS-1) at Yuma, AZ provides standardized advanced training in all aspects of the employment of Marine Aviation. MAWTS-1 conducts the semiannual Weapons and Tactics Instructor (WTI) courses which provide extensive training for 140 aircrews and aviation command and control officers. These officers return to their units and establish a cadre for unit training programs. In addition, MAWTS-1 provides training for over 3,000 wing personnel in supplemental courses each year.

Recruit training remains the fundamental element of our success and is the first step in a program designed to develop the individual Marine. Recruit training provides a series of demanding but attainable performance requirements which each recruit can identify and master. We require the highest standards of performance and conduct from our drill instructors.

These are but a few of the items and support elements which make up our training system. This chapter presents several issues of importance to the development of the Marine Corps training and education program.

Precision Gunnery Training System (PGTS)

Description: PGTS simulates DRAGON and TOW missile firing and tracking. It provides immediate feedback on the gunners performance and enhances proficiency when firing live missiles.

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity		98	155

Why Is It Important? PGTS provides Marines the opportunity to develop shooting/tracking skills before transitioning to full task training with live DRAGON and TOW missiles. This approach allows Marines to practice firing procedures and target acquisition quickly and safely using realistic scenarios. Employment of training systems like the PGTS permit gunners to maintain individual proficiency without firing large quantities of live ammunition. While some live missile firing is required, PGTS is a cost effective complement.

Program Status: A total of 253 PGTS will be fully fielded by FY 92.

Developer/ Manufacturer: Loral Fairchild Systems

Remote Engagement Target System (RETS)

Description: RETS is a computer-controlled system of moving and stationary personnel and anti-armor targets which provides target array and gunnery effect.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	6			15

Why Is It Important? RETS will allow Marines to develop specialized combat marksmanship and anti-armor skills using live ammunition in a variety of simulated combat environments. This approach enhances standard marksmanship and enables Marines to improve actual skills required on the battlefield.

Program Status: The RETS have been procured and the systems are being installed.

Developer/ Manufacturer: Unisys

Light Armored Vehicle (LAV-25) Training System

Description: The LAV-25 training system consists of two devices, the Turret Trainer (TT) and the Substitute Firing Device (SFD). It trains Marines in precision gunnery skills and tactical distribution of fire at the School of Infantry, Camp Pendleton, CA.

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity	1 (TT) 3 (TT)* 4 (SFD)	3 (TT)	

*USMCR

Why Is It Important? LAV-25 Permits Marines to develop precision gunnery skills in a simulated combat environment, and practice precision gunnery quickly and safely using realistic scenarios.

Program Status: The system is installed and functioning at Camp Pendleton. Three TT have been delivered to the USMCR, and three additional TTs will be delivered to the FMF during FY 90.

Developer/ Manufacturer: Daedalan, Inc.

Combined Arms Staff Trainer (CAST)

Description: An initial CAST was developed to support CAX fire support planning and coordination training at Twenty nine Palms, CA. The CAST consists of a terrain board, a target designator (laser system), and a communication system which replicates MEB tactical communication nets. Four additional CASTs will be fielded to the FMF.

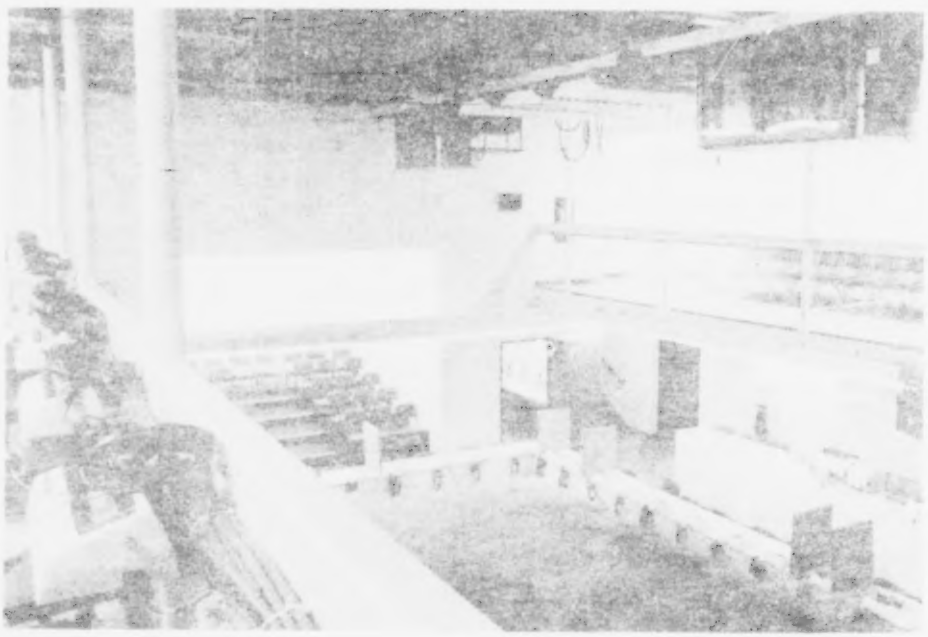
Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	3	2	—	6

Why Is It Important? CAST will provide the commander with methods of training and exercising his subordinate commanders and staffs in planning, controlling, and executing the fire support plan with the scheme of maneuver.

Program Status: The fielding of the CAST is on schedule and will be ready for training at Kaneohe Bay and Camp Lejeune during the Spring of 1991; CAST will be ready for training at Camp Butler and Camp Pendleton during the Spring 1992. One CAST is projected for Quantico in FY 93.

Developer/ Manufacturer: Southwest Research Institute



MAGTF Tactical Warfare Simulation (MTWS)

Description: The Marine Corps continues to develop and field a variety of tactical decision making (TACDM) training materials and simulators to complement traditional unit and formal school training. MTWS is the follow on system to the former TWSEAS program. It will provide new software/hardware to more closely simulate the Command, Ground, Air and CSS elements of the MAGTF. MTWS will be much more reactive than TWSEAS and capable of simultaneous control of integrated field and command post exercises. Further, MTWS will provide enhanced capabilities for FMF, formal school and Reserve components. Upgraded with more capable hardware, the MTWS will provide remote usage capability for all potential users. Additionally, a fourth MTWS site will be provided for 3rd Marine Division.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				4

Why Is It Important? MTWS provides the commander with an alternative method of training and exercising his commanders and staffs in planning, controlling and executing critical combat functions.

Program Status: The MTWS program has an IOC of FY 92.

Developer/ Manufacturer: System Exploration Incorporated

Weapons Models and Mockups

Description: These are large scale working models of current ground weapons systems. These devices will be used to instruct Marines in the use, maintenance, functioning, and composition of the actual weapons.

Procurement Profile:

	PRIOR	FY 90	FY 91	AO
Quantity	21	42	18	121

Why Is It Important? These devices provide realistic substitutes for actual equipment and weapons of NATO and Warsaw Pact nations. They very often represent the only contact Marines will have with specialized weapons they may encounter in actual combat situations. These devices will provide close familiarity with these weapons.

Program Status: These items are procured on an annual basis as required.

Developer/ Manufacturer: Various manufacturers are used for these procurement actions.

Multiple Integrated Laser Engagement System (MILES)

Description:

MILES is a family of low-power, eye-safe lasers which simulate the direct fire characteristics of infantry assault, armor, anti-armor and mechanized weapons or weapons systems. MILES is designed to be used as an engagement simulation training system for the determination of hit, miss or near miss and should not be confused with gunnery training.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity	6			3*

*Battalion Set(s)

Why Is It Important?

Combat environment simulation devices add realism to force-on-force training and allow Marines to experience situations which closely resemble the conditions in which they will fight. Peacetime validation of doctrine, tactics and techniques is a natural consequence of using such devices.

Program Status:

The program goal is to complete the FMF training requirements for MILES equipment. Additionally, the constant improvements to, or replacement of our weapons or weapons systems requires the provision of updated MILES-type equipment in order to effect realistic, up-to-date training.

Developer/ Manufacturer:

Loral Optical

5

Naval Support Programs

Maritime and Geographical Prepositioning

The Marine Corps has enhanced its expeditionary readiness through an energetic prepositioning program that is now fully operational. The maritime prepositioning program consists of three fully operational maritime prepositioning forces (MPFs). The geographical program, referred to as the Norway Air Landed MEB (NALMEB) program, achieved IOC in December 1989. This section summarizes the unique composition and tailoring of the two programs, contains information on equipment maintenance, and highlights a few of their deployment capabilities.

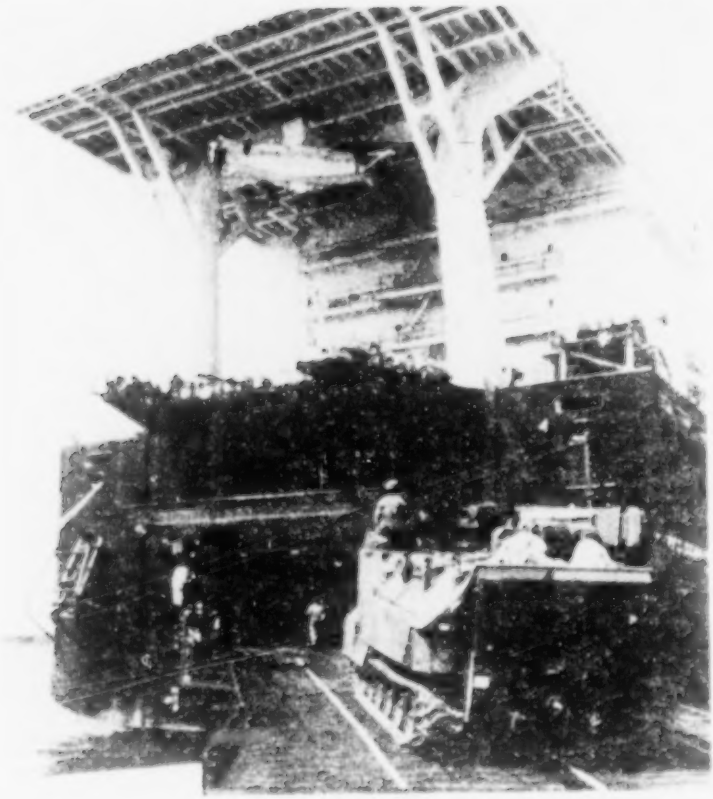
An MPF is comprised of a naval command element, a MEB, an MPS squadron—loaded with most of the MEB's combat equipment and about 30 days of supply—and a Navy Support Element. The MPF concept gives the Marine Corps a response capability unparalleled in the world. A 16,500-man, armor-heavy fighting force can deploy to vast reaches of the globe, offload its equipment and supplies, assemble and be prepared for combat in a matter of a few days. It triples the Fleet Commander's ability to employ Marine Forces—and does so with a modicum of strategic airlift and sealift.

With the Marine Corps' crucial role in defending NATO's northern flank, the Marine Corps is in its final year of filling six NATO-funded, Norwegian-built storage sites with a MEB's set of equipment and supplies. The cavernous, climate-controlled, in-granite facilities are located in central Norway. Norway has organized a Host Nation Support Battalion which will assist in outloading the storage sites and perform many vital combat service support tasks in the redeployment of the air-lifted MEB to its designated objective area.

These four sets of combat equipment and supplies have been tailored to meet MEB-level combat requirements in various portions of the world. Specifically, camouflage patterns exist for arctic, desert, and Temperate Zone environments for different sets. The MPS ships and the caves in Norway have been precisely loaded to meet the employment schemes of the designated MEB commanders. These brigades conduct exercises on an annual basis to hone their skills in offloading their ships or the Norwegian storage sites. These tasks include special functions which can best be accomplished by designated and trained brigade service support groups such as de-preserving the equipment and assembling for movement to combat.

To maintain these sets of equipment at a maximum readiness level, the Marine Corps conducts continuous maintenance activities on board each of the 13 MPS vessels at a permanent maintenance site on Blount Island near Jacksonville, Florida, and at the storage sites in Norway. Maintenance and modernization are performed by a commercial firm for the MPS sets of equipment and by the Norwegian Army under established agreements for the Norway set. The ground ammunition equipment is maintained and modernized on a scheduled basis without removing the total prepositioned equipment available for the MEBs.

USMC prepositioning offers a potent and strategically flexible national capability. Among the numerous roles and missions which can be assigned to prepositioning forces, two are of particular note. By moving an entire MPF or the NALMEB to a designated area prior to the outbreak of hostilities, a strong signal of U.S. resolve is given which may serve to dissuade potential adversaries from initiating a military conflict. Also, an MPF can reinforce an amphibious operation by rapidly surging forces into a secured beachhead. With this immensely enhanced deployment capability, operational planners are now re-examining various operational plans to emphasize the rapid closure capabilities available in combining afloat amphibious forces with MPFs and the NALMEB. For example, Allied Forces North has fully integrated the NALMEB into operational plans for securing the Norwegian Sea.



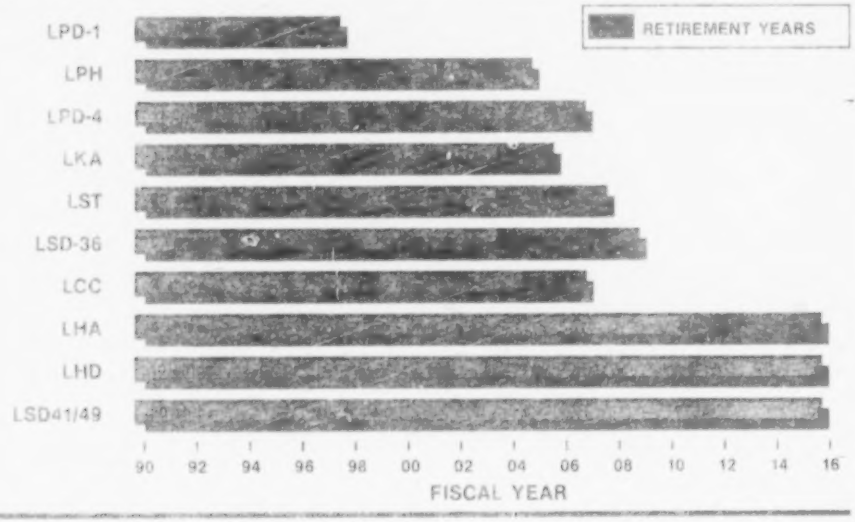
Once these expeditionary forces are assembled, they have nearly a month's supply of rations, munitions, and spare parts needed for waging combat operations. The self sustainment aspects of the Marine Corps prepositioning forces is unmatched by any other U.S. air-lifted force. An equivalent force would require over 4,500 C-141 sorties to move the same amount of personnel, equipment, and supplies to a contingency area. Such a force could be assembled and deployed in matter of several weeks with non stop surge aviation operations that could involve extensive logistics efforts and strain our employment options. The MPF can put the same force on the ground and be prepared for military operations in 10 days.

Another related initiative that will provide a significantly better expeditionary capability to Marine aviation units is the Aviation Logistic Support Ships (TAVB) concept. This program enhances the maintenance effort of our forward deployed aviation assets operating in contingency area. The USNS *Wright* in the Atlantic and USNS *Curtiss* in the Pacific will sustain and support the intermediate maintenance requirements of the ACE of a MEB. The *Wright* was delivered in June 1986, and the *Curtiss* was delivered in August 1987.

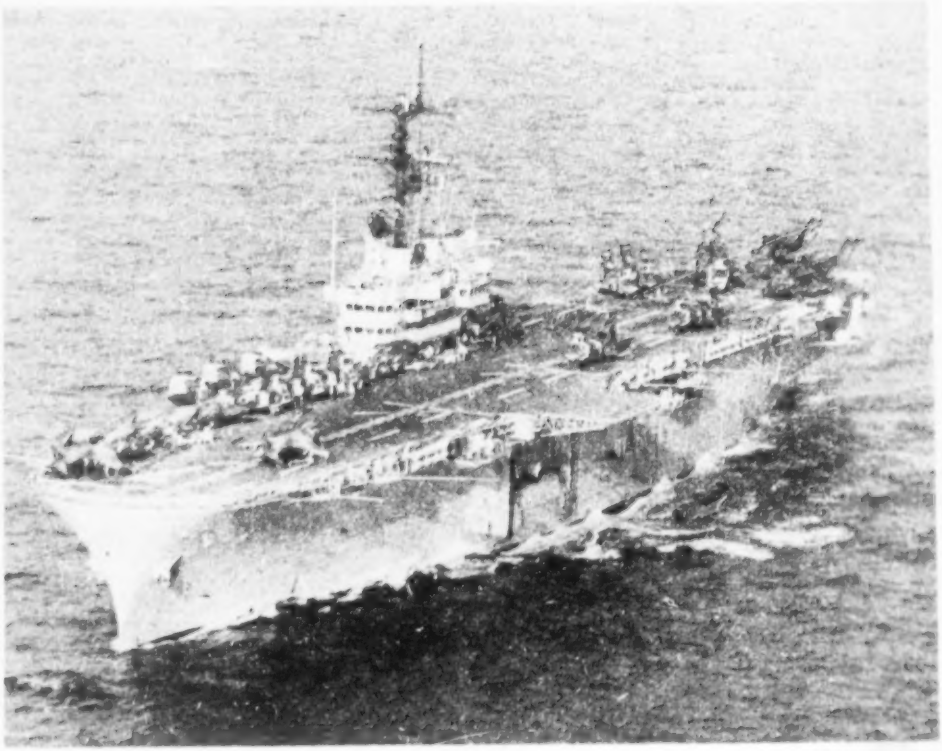
Amphibious Lift

Although the Marine Corps does not fund any portion of sealift, its role as an expeditionary force gives it a vested interest in the status of amphibious assault shipping. The Commandant has supported a program objective of the amphibious assault lift for the assault echelons (AEs) of a MEF and MEB. The assault echelons comprise only a portion of the total MEF or MEB force structure. The assault echelon comprises only those forces scheduled for the initial assault on the objective. Planning for the transportation and arrival of forces and sustainment in echelons facilitates control and scheduling of precious lift assets. The remaining portion of the force must be transported by air and by commercial type shipping as part of the assault follow-on echelon (AFOE), which is required to support and sustain the operation. The Navy and Marine Corps have stabilized the stated AE lift requirements specified for the MEF and MEB in order to provide a basis for programming a balanced amphibious ship force.

The Marine Corps is concerned by the potential block obsolescence of amphibious shipping. Early in the 21st century over 30 ships are slated for retirement. This schedule could be affected by early retirements and reduced new construction due to fiscal constraints. While all aspects of naval forces are subject to reassessment and justification in the face of severe fiscal constraints, adjustments in amphibious ship levels will receive especially close examination by the leadership of the Department. Inventory reduction may reduce response times in crisis action scenarios where the Nation has no forward bases and curtails the deterrent impact of our conventional power projection forces. Reduction of the number of operational exercises in which the Navy Marine Corps team participates would also be a product of major down sizing.



The current MEF(AE) lift capability is dependent upon the availability of all active and reserve amphibious ships. To attain and maintain a level of amphibious assault shipping sufficient to simultaneously lift a MEF(AE) and MEB(AE) requires new construction. An outgrowth of this coordinated effort to revitalize the amphibious force has been the development of a number of innovative proposals for improved ship-to-shore mobility that will support a wide range of operational concepts and ensure that a credible amphibious warfare capability exists through the end of this century and beyond.



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"WASP" Class (LHD)

Description:

The "WASP" class (LHD) is a multi-purpose amphibious assault ship. The ship's primary mission is to embark, deploy, and land elements of a Marine landing force in an assault by helicopters, landing craft, amphibious vehicles, and by combinations of these methods. The LHD class has a secondary/convertible mission for sea control.

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity	4		1

Why Is It Important?

The swift, forcible projection of our afloat Marine forces in the seizure or defense of: 1) advance naval bases for further operations, 2) land areas dominating straits and narrow seas and 3) strategic islands/peninsulas, is of obvious importance to any naval campaign; hence, the requirement for amphibious forces. In order to be successful, however, our commanders must have not only the necessary amphibious lift but also the flexibility to land the landing force by air or surface means. The LHD class provides this flexibility. The LHD will significantly increase the total lift capability by providing a flight deck for both helicopters and V/STOL aircraft and offering a well deck for both air-cushion and conventional landing craft. LHD is key to obtaining our lift objective.

Program Status:

Contract awards for four LHD's have been awarded for construction. LHD 1 (USS WASP) was commissioned on 29 July 1989. LHD 2 (USS ESSEX) keel laying occurred in March 1989. The option to construct LHD 3 was exercised in November 1987 and fabrication began in early 1989. The option for LHD 4 (USS BOXER) was exercised in October 1988.

Developer/ Manufacturer:

Ingalls Shipbuilding, Pascagoula, MS

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WHIDBEY ISLAND" Class (LSD 41)

Description:

LSD 41 will provide well deck space and have a maintenance capability for both conventional displacement landing craft and LCAC. An LSD 41 cargo variant (CV) is designed with an LSD 41 basic hull, optimized for cargo.

Procurement Profile:

	PRIOR	FY-90	FY-91	AO
Quantity				
LSD 41	8			
LSD 41 (CV)	1	1	1	

Why Is It Important?

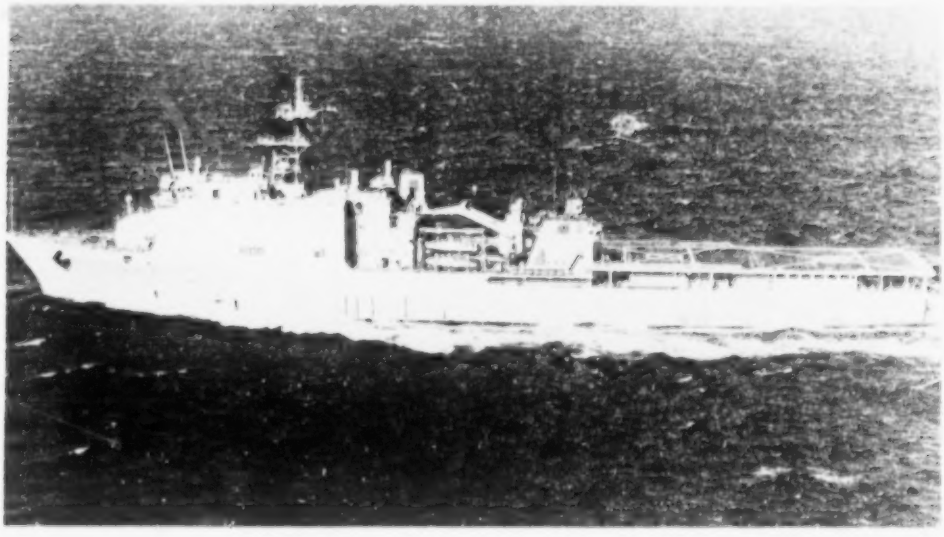
In 1967 there were 162 active amphibious ships. Today there are 63—including both active and reserve ships. The remaining three "Thomaston" (LSD 28) class ships will retire by FY 90. The LSD 41 construction program will replace the lost lift capacity attributed to the LSD 28 class retirements. Procurement of the LSD 41 (CV) class of ships, to provide required lift for a MEF(AE) and a MEB(AE), particularly in cargo and LCAC carrying capacity, is essential.

Program Status:

LSD 41 (USS WHIDBEY ISLAND), LSD 42 (USS GERMANTOWN), LSD 43 (USS FORT McHENRY) and LSD 44 (USS GUNSTON HALL) have been commissioned. LSD 45 (USS COMSTOCK) is to be delivered in January 1990, and LSDs 46 through 48 have been launched. The contract award for LSD 49 (HARPERS FERRY Class) was awarded in June 1987. It includes options for LSD 50 through 53.

Developer/ Manufacturer:

Lockheed Shipbuilding, Seattle, WA
Avondale Industries, New Orleans, LA



5-7

Landing Craft Air Cushion (LCAC)

Description:

The LCAC is a high speed (40+ knots), over the beach, ship-to-shore amphibious landing vehicle capable of a 60 ton payload (75 ton overload). It is designed to lift all equipment organic to the MAGTF in an amphibious operation.

Procurement Profile:

	PRIOR	FY-90	FY-91
Quantity	48	12	12

Why Is It Important?

This air cushion craft will replace current pre-WWII technology landing craft, scheduled for retirement during the late 1990s, with modern landing craft that offer the following advantages over current landing craft:

- Exposes 70 percent of the world's beaches to amphibious operations vice the current 17 percent.
- Travels in excess of 40 knots, vice 9-11 knots.
- Craft characteristics provide OTH launch capability and decrease vulnerability of the force.
- Increases survivability in mined waters.
- Significantly increases build up rate ashore, thus increasing probability of assault success.
- Improves operation in poor weather and sea conditions.

Six LCAC are the minimum needed to provide an operational capability for a MEU. A MEB requires 25 and a MEF notionally requires 78. Since the LCAC introduces the most significant improvement to amphibious warfare since the helicopter, LCAC procurement is strongly supported by the Marine Corps.

Program Status:

Twenty-four LCACs have been delivered and 24 are under contract. The first operational LCAC unit, Assault Craft Unit Five, is located at Camp Pendleton, CA. The second unit, Assault Craft Unit Four, is located at Little Creek, VA.

Developer/ Manufacturer:

Textron Marine System
Avondale Gulfport Marine

Naval Surface Fire Support (NSFS)

Description:

While evolving concepts for the conduct of the amphibious assault will exploit capabilities to land forces, in relatively unopposed areas from OTH wherever and whenever possible, circumstances may still require assaults against defended beaches and landing zones. Moreover, the landing force once ashore in the objective area must be prepared to face the type of violent counterattacks using highly mobile, mechanized forces that the projected threat espouses. This not only validates the continued requirement for NSFS to provide the responsive, close and continuous all-weather fire support required during the early phases of the assault until artillery is established ashore but, given the requirement to support helicopter-borne assault forces landed 15-20 nm inland, also establishes the range requirement for modern NSFS systems at 60 nm (allowing also for ship standoff distance). Reactivation of the four IOWA class battleships has helped, but the bottom line is that the current inventory of NSFS platforms is deficient in range and lethality due to heavy dependence on 5-inch guns and the lack of the ability to kill hard, point targets without an excessive expenditure of ammunition.

In light of the foregoing, the Marine Corps supports the following enhancements to NSFS capabilities:

- Early introduction of 16-inch improvements that include a shipboard gunfire control system for greater accuracy and an extended range submunition projectile to provide greater range and a dramatic increase in lethality.
- The 5-inch semi-active laser-guided projectile (SAL-GP), to provide the pinpoint accuracy needed to engage hard, point targets whether mobile or stationary.
- Procurement and stockage of sufficient NSFS ammunition to support the amphibious operations of a MEF and MEB for 60 days.
- Evaluation of the Army's Multiple Launch Rocket System (MLRS) for use at sea under the Assault Ballistic Rocket System (ABRS) concept.
- Development of follow-on payloads.
- Development of gun systems to combine with the ABRS system as a replacement for the 16-inch gun, when the battleships are eventually retired.

5-9

Navy Support Element (NSE)

Description:

The NSE performs tasks to support amphibious and MPF operations in addition to those accomplished by the crews of amphibious ships. Since these units are not permanently assigned to the ships, they occupy berthing, vehicle, and cargo space designated for troops. The total lift requirement for an amphibious operation must therefore include NSE requirements as well as the MAGTF. The NSE, which will be split between the AE and the AFOE, is composed of the following:

Commander Amphibious Task Force (CATF) Staff
Naval Beach Group
  Beach Group
  Amphibious Construction Battalion
  Assault Craft Unit
SEALs
Explosive Ordnance Disposal (EOD) Unit
Medical Augmentation Unit
Mine Countermeasures Group
Navy Mobile Construction Battalion (NMCB)
Fleet Composite Readiness Group (FLTCOMPRGRU)
Search and Rescue (SAR) Unit
Mobile Inshore Undersea Warfare (MIUW) Unit
Navy Cargo Handling and Port Group (NAVCHAPGRU)

Why Is It Important?

The NSE is vital to the smooth off-load of the amphibious force. Made up of widely diversified units, the principal challenge involved in the NSE is the manning and training of the NAVCHAPGRU, which is instrumental in operating the off-load systems of MPS/AFOE ships and of the Naval Beach Group units, who operate assault craft and lighterage for off-load of AE ships and control the flow of material on the beach to the high water mark.

Program Status:

The Marine Corps supports the ability to simultaneously deploy two MPF MEBs and two amphibious task forces. The Navy is programming to meet this goal using a preponderance of reserve forces in the NAVCHAPGRU and amphibious construction battalion.

Medical Support

The Marine Corps receives all of its medical support from Navy personnel and from a combination of organic Marine medical units and Naval Medical Facilities. The primary objective of the health service support system, during both peacetime and war, is to provide the necessary care to keep our Marines ready for their mission. This support extends to the dependents of our Marines as well.

The medical support provided to the MAGTFs spans across a continuum of care that begins with the individual Navy medical Corpsman that serves at the unit level. This continuum extends from emergency treatment facilities organic to the Medical Battalion of the CSSE, to specially designed Navy Hospital ships (discussed further below), and finally to first class hospitals in the theater of operations or in CONUS.

Because of the expeditionary nature of the Marine Corps, our medical support organizations must be equally mobile and responsive. This mandates that peacetime medical support units be maintained at a satisfactory level of readiness in terms of trained personnel and logistic preparation. This capability to support the MAGTF in global contingencies saves lives once the MAGTF has been engaged.

Each MEF must have the capability of caring for a total of 20,000 casualties in a 60 day period. To meet this requirement, advanced medical equipment and life saving facilities have been added to our inventories. In addition, two hospital ships (TAH), the MERCY and the COMFORT, have been delivered. Each vessel is maintained in the Reserve Fleet in a 5-day recall status. One vessel is positioned on each coast. Both ships contain 1,000 beds and 12 operating rooms. The delivery of the two hospital ships and the programmed Fleet Hospital assets represent a significant step forward towards ensuring prompt and professional medical care for Marines.

Dental Support

Dental support for the Marine Corps is provided by Navy personnel assigned to Dental Battalions in the Fleet Marine Force and to Naval Dental Clinics located abroad Marine bases. The Dental Battalion, one of eight battalions of the Force Service Support Group, is organized and staffed to support a Marine Expeditionary Force. Each of the dental clinics is under the cognizant authority of the respective base commander. During peacetime dental treatment is provided at permanent fixed facilities with equipment procured and maintained by the Navy. During contingencies and during deliberate military operations, the Dental Battalion will deploy with the Marine Air Ground Task Force and continue its support throughout the duration of the operation.

The Dental Battalion has proven itself as an extremely effective organization capable of meeting all tasks expeditiously, while exhibiting the flexibility and mobility needed in expeditionary operations. The battalion is prepared for immediate deployment, is comprised of fully trained personnel, who are familar with Marine doctrine, policy, concepts of operation, and tactics. The battalion, like the remainder of the force, can be quickly task organized to support any sized MAGTF for civic action operations and humanitarian assistance when required.

The Dental Battalion is fully integrated into all operational planning and training commitments. It is combat ready and prepared to execute a comprehensive dental support program in any environment or contingency. The dental support received by the Marine Corps makes a crucial contribution to overall combat readiness and represents a classic example of the Navy Marine team in action.

6

Resource Allocation Overview

The DoD Planning, Programming and Budgeting System (PPBS) is the framework within which decisions are made that shape the character and capabilities of our forces. Marine Corps participation in the PPBS provides a vigorous process for requirements determination and validation; comparison of competing alternatives; continuous review and assessment of ongoing programs; and eventually the resources needed to execute approved programs. Plans emerge from operational requirements, formal guidance and policies. Planning determines the Marine Corps force structure and capabilities necessary to support assigned roles and missions in support of national security objectives.

Programs supply resources to the most essential capabilities contained in the plans. Programming connects the plans to the budget. Programming translates plans and their supporting requirements into specific and discrete components of personnel, materiel, systems and resources that permit execution of approved programs within expected fiscal limits. Through a variety of forums the programming process makes assessments of Marine requirements, establishes priorities, and allocates resources. The programs, as approved by the Secretary of the Navy and the Secretary of Defense, constitute the Service's input into the budgeting cycle. Budgets are submitted through a series of reviews and eventually form a portion of the Presidential Budget Submit. This proposed budget is then authorized and appropriated by Congress allocation of resources to these programs.

FIGURE 6-1:
OVERVIEW OF PLANNING, PROGRAMMING AND BUDGETING SYSTEM (PPBS)

- **Planning**
  - Assess the threat
  - Develop strategy and policy
  - Develop force planning guidance
  - Identify required capabilities in order of priority within and between mission areas
- **Programming**
  - Translate plans into achievable program packages
  - Apply resources
  - Develop the Six Year Defense Plan
- **Budgeting**
  - Translate program decisions into budget justification format
  - Review programs for executability and acquisition strategy

Marine Corps Planning and Programming

The Marine Corps plans and programs within the DoD PPBS through development of documents comprising the Joint Strategic Planning System (JSPS), strong participation in the Navy program planning process, and development of internal Marine Corps long-range, mid-range, and short-range plans. Close and continuous coordination and active participation by all concerned maximize the Marine Corps contribution to national military strategy.

Marine Corps Planning:

Listed below are Marine Corps internal plans required for Marine Corps program development. The Commanding General of the Marine Corps Combat Development Center is responsible for the following plans except where indicated otherwise.

The Marine Corps Campaign Plan (MCCP) is the foundation document for Marine Corps internal planning. The MCCP describes the contribution of the Marine Corps to national security, the probable missions of Marine forces, and the expectations and limitations for force employment. The plan gives specific direction to the FMF to achieve certain objectives within a definite time period. The MCCP also provides direction to supporting agencies on all relevant issues which reflect the Commandant's intent and his vision of the future Marine Corps. The plan provides the forum to capture innovative concepts and methodologies, and to institutionalize Marine Corps planning processes, CMC policies, and needed programming initiatives. The plan provides direction to the Concepts Based Requirements System for changes to doctrine, training, force structure, and materiel.

The Campaign Plan also serves as an enduring statement of the central values, tenets, convictions, and doctrinal principles of the entire Marine Corps organization. In this last purpose, it serves as guidance for all Marines tasked to articulate overall Marine Corps goals and objectives.

The Marine Corps Long Range Plan (MLRP) is an explanation of concepts and goals considered essential for the Marine Corps to accomplish its mission 10 to 20 years into the future. It is based upon the Commandant's guidance, the future threat, and technology research. The MLRP makes general assumptions and projections about the operational environment of the future. It describes future national strategies and how the Marine Corps supports those strategies through military capabilities. It presents, through classified annexes, future technologies with military potential, and a global threat assessment.

The MAGTF Master Plan (MMP) establishes the operational foundation for the organization, manning, equipping, training, and development of doctrine and operational techniques for MAGTFs. It addresses the mid-range period (to 10 years in the future) and provides resource allocation guidance. The MMP provides guidance for the development of detailed subordinate plans that identify in detail the actions needed in doctrine, training, organization, and equipment to ensure that MAGTFs have the capability described in the MMP. In this way, programming of new equipment and weapon systems initiatives will be directly linked to operational planning. The MMP and its subordinate plans identify prioritized MAGTF requirements for introduction into the PPBS. The MMP is published biennially by the CG MCCDC based upon the Commandant's guidance, and updated annually.

The Supporting Establishment Master Plan (SEMP) is the non-FMF counterpart to the MMP. Developed concurrently with the MMP, it ensures proper consideration of all non-FMF resources to achieve maximum possible support of the goals of the MMP. The non-FMF supporting establishment objectives detailed in the SEMP provide guidance for program development for the non-FMF and supporting establishment. The DC/S Installations and Logistics (I&L) is responsible for the SEMP.

Marine Corps Programming:

The Deputy Chief of Staff for Requirements and Programs (DC/S R&P) is responsible for development of the Marine Corps' input to the Department of the Navy Program Objective Memorandum (DON POM). The Marine Corps input is developed in response to the Defense Planning Guidance (DPG) and Marine Corps MAGTF Master Plan. In addition to these documents, the DC/S R&P incorporates the goals and objectives expressed during the Program development cycle by the Commandant of the Marine Corps and the Secretary of the Navy's DON Consolidated Planning and Programming Guidance (DNCPPG). The expressed needs of the CINCs are also carefully considered in the process.

Close, continuous coordination with the Navy staff and vigorous participation in their program planning process by all commands and staff agencies is a vital ingredient of program development.

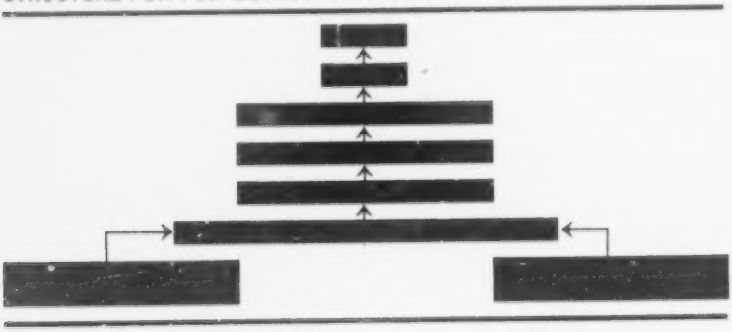
The essence of programming is fitting the demands and requirements of both plans within available resources in such a manner that produces the most capability. The full and energetic participation of all staff agencies and commands permits consideration of all factors, both internal and external, and develop the optimum program strategy for the Marine Corps.

When program initiatives are submitted into the PPBS/POM process, these initiatives are prioritized with respect to all other submitted program initiatives. Initiatives are considered over and above an artificially low funding level set for the "core" programs to force discrimination and identification of lower priority programs. These lower priority programs are then required to recompete for funding with all other identified deficiencies and new initiatives. Program priorities within the POM process are established using decision analytical tools, assessment of operational need, and cost benefit analysis so that the programming committees can objectively establish priorities among unlike programs. The top programs from the initiative prioritization process that can be accommodated above the core and within the established funding ceiling form the new Marine Corps POM.

The result of this process is then submitted for consideration by the Secretary of the Navy and inclusion with the U.S. Navy input to what becomes the DON POM. The DON POM (and other service POMs) are then reviewed in detail by the Defense Planning and Resources Board (DPRB) and the Secretary of the Defense.

FIGURE 6-2

STRUCTURE FOR POM DEVELOPMENT AND REVIEW



6-4

The most mature 2 years of the POM then go through extensive reviews by the Navy Comptroller and Office of the Secretary of Defense (OSD) before they transition into the Marine Corps' portion of the President's Budget. At that time they become the management responsibility of the Fiscal Director of the Marine Corps and appropriation sponsors.

Financial Resources

Financial resources are the funds that are programmed, budgeted, appropriated, obligated, and finally expended to cover service investment and operational requirements. Total Obligational Authority (TOA) refers to the total financial resources available to DoD. The Secretary of Defense allocates the DoD TOA to the three Military Departments. The Secretary of the Navy further divides resources between the Marine Corps and the Navy based on operational needs. Displayed below in Figure 6-3 is the TOA for all of DoD from FY-87 through the FY-91 Presidential Budget:

FIGURE 6-3

TOA FOR ALL DOD, FY-87—FY-91, PRESIDENTIAL BUDGET

	FY-87	FY-88	FY-89	FY-90	FY-91
$ Billion	279.5	283.2	290.8	291.4	295.1

Directly following in figures 6-4 and 6-5 are charts which display the percentage of DoD funds budgeted by each service/agency. This TOA is subsequently divided into appropriations.

FIGURE 6-4

DoD FY-90/1 TOTAL OBLIGATIONAL AUTHORITY BY SERVICE

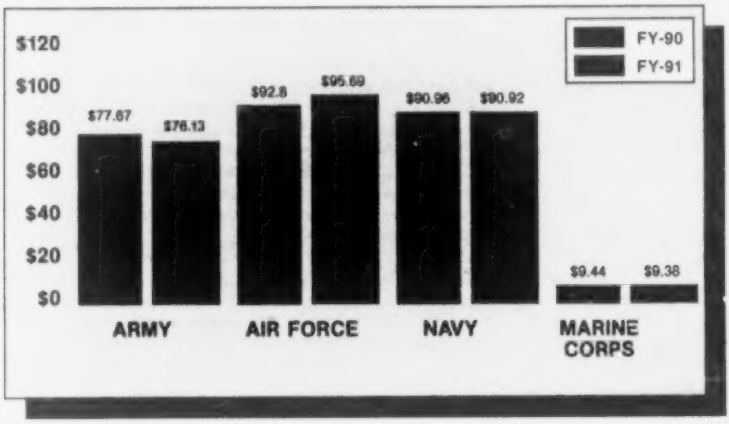
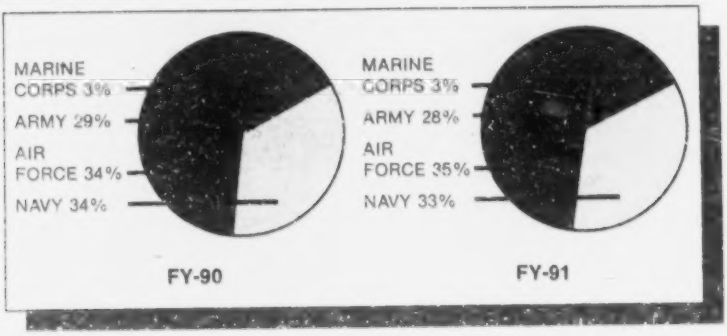


FIGURE 6-5

DoD TOTAL OBLIGATIONAL AUTHORITY
BY SERVICE



Appropriations:

An appropriation is the legal apportionment by an act of Congress to incur obligations for specified purposes and to make payments from the Treasury of the United States. Funds may be expended only for the purpose for which appropriated. Following are the USMC appropriation titles with a brief synopsis of what each provides:

- **Military Personnel, Marine Corps (MPMC)**
  For pay, allowances, individual clothing, subsistence, interest on deposits, expenses for organization movements, and expenses of temporary duty travel between permanent duty stations.

- **Reserve Personnel, Marine Corps (RPMC)**
  For pay, allowances, clothing, subsistence, gratuities, travel, and related expenses for personnel of the Marine Corps Reserve on active duty.

- **Operation and Maintenance, Marine Corps (O&MMC)**
  For expenses necessary for support of the FMF, civilian employee pay, travel and transportation, training, consumable supplies, recruiting and advertising, base operations and base communications.

- **Operation and Maintenance, Marine Corps Reserve (O&MMCR)**
  For expenses necessary for the operation and maintenance, including training, organization and administration of the Marine Corps Reserve; repair of facilities and equipment; hire of passenger moter vehicles; travel and transportation; and communications.

- **Procurement, Marine Corps (PMC)**
  For expenses necessary for the procurement and manufacturer of ammunition, weapons and tracked combat vehicles, guided missiles and equipment, communications and electronics, support vehicles, engineer and other equipment and spares for repair parts.

The following are Navy appropriations of which the Marine Corps programs its resources allocated by the Secretary of the Navy. These appropriations are divided into the blue/green (Navy/Marine Corps) split.

- **Military Construction, Navy (MCON)**
  For acquisition, construction and installation of temporary or permanent public works, naval installations and facilities for the Navy and the Marine Corps.

- **Family Housing, Navy and Marine Corps (FHN&MC)**
  For the construction, maintenance, repair and design of Navy and Marine Corps housing and ancillary facilities required by bases and stations.

- **Navy Stock Fund (NSF)**
  For the procurement of stock funded War Reserve Materiel required to achieve a materiel support posture to provide war reserve asset levels and inventory objectives for combat critical items. Examples include: supplies, minor items of equipment, and parts used in the manufacture, assembly or repair of items of equipment.

- **Military Construction, Navy Reserve (MCNR)**
  For construction, acquisition, expansion, rehabilitation, and conversion of facilities for the training and administration of the reserve components of the Navy and Marine Corps.

A display of the TOA in millions of dollars allocated to each of these appropriations is displayed below:

FIGURE 6-6
MARINE CORPS TOA

	FY-88	FY-89	FY-90	FY-91
MPMC	5,563	5,679	5,794	5,919
RPMC	294	315	315	336
O&MMC	1,832	1,840	1,809	1,948
O&MMCR	70	77	77	86
PMC	1,276	1,292	1,075	782
NSF(MC)	21	33	20	26
FHMC	158	157	153	138
MCON	235	276	178	142
MCNR	27	5.0	16	9
TOTAL	9,476	9,674	9,437	9,386

FIGURE 6-7
USMC FY-90 TOA
BY APPROPRIATION

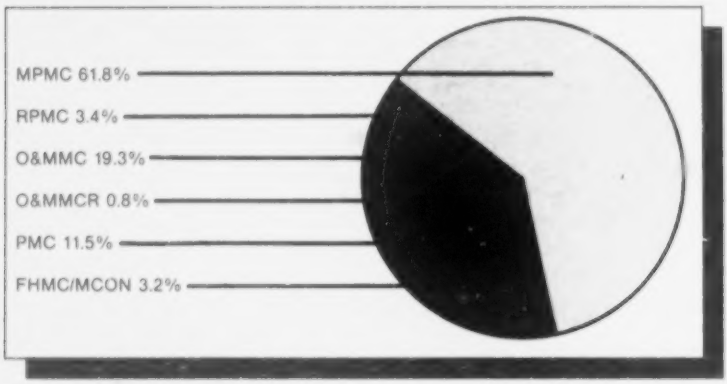


FIGURE 6-8
USMC FY-91 TOA
BY APPROPRIATION

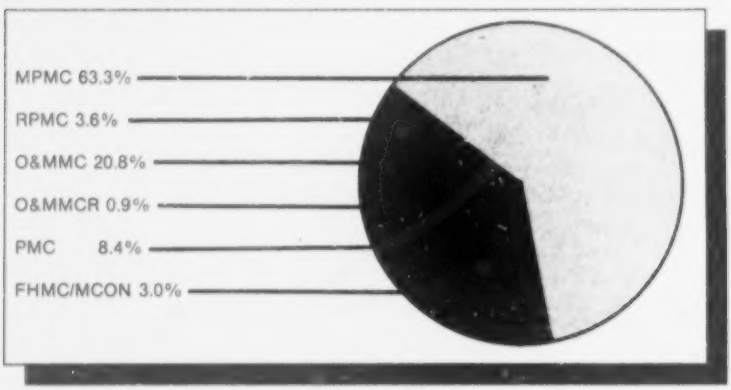
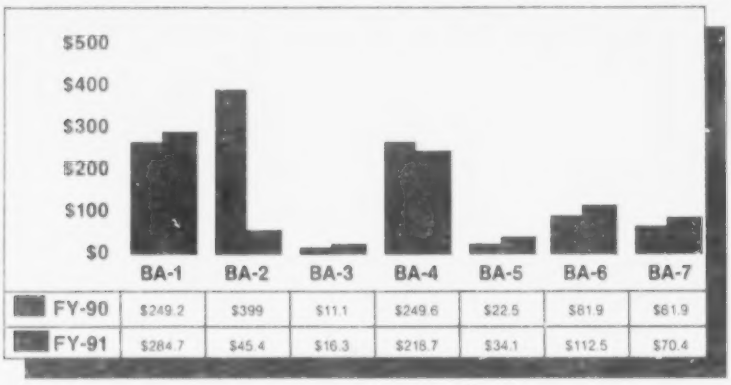


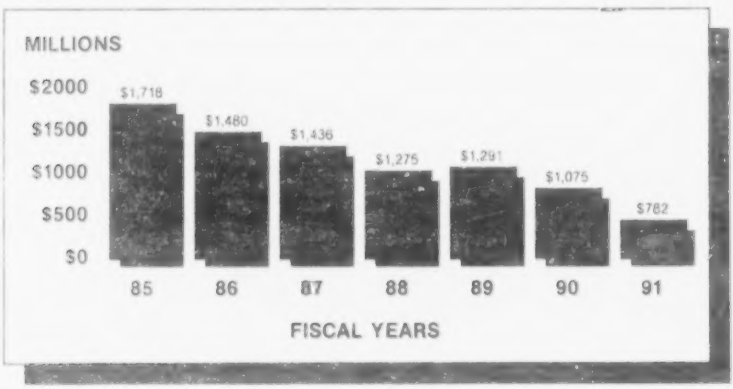
FIGURE 6-9
PROCUREMENT
BY BUDGET ACTIVITY



BA-1: AMMUNITION
BA-2: WEAPONS AND COMBAT VEHICLES
BA-3: GUIDED MISSILES AND EQUIPMENT
BA-4: COMMUNICATIONS AND ELECTRONICS EQUIPMENT
BA-5: SUPPORT VEHICLES
BA-6: ENGINEER AND OTHER EQUIPMENT
BA-7: SPARES AND REPAIR PARTS

FIGURE 6-10

MARINE CORPS PROCUREMENT RESOURCES
PMC APPROPRIATIONS BY FISCAL YEAR



6-9

Appendix A

Glossary

AAAV	ADVANCED AMPHIBIOUS ASSAULT VEHICLE
AAV	ASSAULT AMPHIBIOUS VEHICLE
AAWS-M	ADVANCED ANTITANK WEAPON SYSTEM-MEDIUM
ACE	AVIATION COMBAT ELEMENT
ACMC	ASSISTANT COMMANDANT OF THE MARINE CORPS
ADP	AUTOMATED DATA PROCESSING
AE	ASSAULT ECHELON
AFATDS	ARMY FIELD ARTILLERY TACTICAL DATA SYSTEM
AFOE	ASSAULT FOLLOW-ON ECHELON
AFSS	AUTOMATIC FIRE SENSING AND SUPPRESSION SYSTEM
AIS	AUTOMATED INFORMATION SYSTEM
AMDAS	AIRBORNE MINE DETECTION AND SURVEILLANCE SYSTEM
AMASS	ADVANCED MARINE AIRBORNE SIGNALS INTELLIGENCE SYSTEM
ANVIS	AVIATOR'S NIGHT VISION IMAGING SYSTEM
AOA	AMPHIBIOUS OBJECTIVE AREA
APFSDS-T	ARMOR PIERCING FIRE STABILIZED DISCARDING SABOT TRACER
APN	AIRCRAFT PROCUREMENT, NAVY
APOBS	ANTI-PERSONNEL OBSTACLE BREACHING SYSTEM
APPN	APPROPRIATION
ARBS	ANGLE RATE BOMBING SYSTEM
ASIP	ALL SOURCE IMAGERY PROCESSOR
ATACC	ADVANCED TACTICAL AIR COMMAND CENTRAL
ATARS	ADVANCED TACTICAL AERIAL RECONNAISSANCE SYSTEM
ATD	ADVANCED TECHNOLOGY DEMONSTRATION
ATF	AMPHIBIOUS TASK FORCE
ATO	AIR TASKING ORDER
AVLB	ARMORED VEHICLE LAUNCHED BRIDGE
AVN	AVIATION
BCS	BATTERY COMPUTER SYSTEM
BEQ	BACHELOR ENLISTED QUARTERS
BLEPS	BALLISTIC LASER EYE PROTECTION SYSTEM
C2I	COMMAND, CONTROL AND INTELLIGENCE
C4	COMMAND, CONTROL, COMMUNICATIONS AND COMPUTER SYSTEMS
CA	COMMERCIAL ACTIVITIES
CAEMS	COMPUTER AIDED EMBARKATION MANAGEMENT SYSTEM
CAL	CALIBER
CAM	CHEMICAL AGENT MONITOR
CAST	COMBINED ARMS STAFF TRAINER
CATF	COMMANDER AMPHIBIOUS TASK FORCE
CATFAE	CATAPULT LAUNCHED FUEL AIR EXPLOSIVE LAND MINE COUNTERMEASURE
CAX	COMBINED ARMS EXERCISE
CBTZ	COMBAT ZONE
CCO	COMMUNICATIONS COLLECTION OUTSTATION
CCS	COUNTERINTELLIGENCE COMMUNICATIONS SYSTEM
CE	COMMAND ELEMENT OR COMBAT EXCAVATOR
CECM	COMMUNICATION ELECTRONIC COUNTERMEASURES (CECM)
CEP	CIRCULAR ERROR PROBABLE
CG	COMMANDING GENERAL
CHG PROP WB	CHARGE PROPELLENT WHITE BAG
CI	COUNTERINTELLIGENCE
CIEP	COUNTERINTELLIGENCE EQUIPMENT PROGRAM

CINC	COMMANDER-IN-CHIEF
CINCLANTFLT	COMMMANDER-IN-CHIEF ATLANTIC FLEET
CINCPACFLT	COMMMANDER-IN-CHIEF PACIFIC FLEET
CI&SE	COUNTERINTELLIGENCE AND SECURITY EQUIPMENT
CITS	COUNTERINTELLIGENCE TEAMS
CMC	COMMANDANT OF THE MARINE CORPS
COEA	COST AND OPERATIONAL EFFECTIVENESS ANALYSIS
COMMCON	COMMUNICATIONS CONTROL
COMINT	COMMUNICATIONS INTELLIGENCE
COMMZ	COMMUNICATION ZONE
COMSEC	COMMUNICATIONS SECURITY
CONUS	CONTINENTAL UNITED STATES
CP	COMMAND POST
CSP	CONTINGENCY SUPPORT PACKAGE
CSSE	COMBAT SERVICE SUPPORT ELEMENT
CUDIX	COMMON USER DIGITAL EXCHANGE
CV	CARGO VARIANT
CVBG	CARRIER BATTLE GROUP
CY	CALENDAR YEAR
DAB	DEFENSE ACQUISITION BOARD
DAMA	DEMAND ASSIGNED MULTIPLE ACCESS
DASC	DIRECT AIR SUPPORT CENTER
DCS	DEFENSE COMMUNICATIONS SYSTEM
DC/S	DEPUTY CHIEF OF STAFF
DCT	DIGITAL COMMUNICATIONS TERMINAL
DE	DIRECTED ENERGY
DECM	DEFENSIVE ELECTRONIC COUNTER MEASURES
DEMVAL	DEMONSTRATION AND VALIDATION
DEP	DELAYED ENTRY PROGRAM
DF	DIRECTION FINDING
DI	DRILL INSTRUCTOR
DMA	DEPOT MAINTENANCE ACTIVITY
DNCPPG	DEPARTMENT OF THE NAVY CONSOLIDATED PLANNING AND PROGRAMMING GUIDANCE
DNRS	DAY/NIGHT RANGE SIGHT
DP	DUAL PURPOSE
DPG	DEFENSE PLANNING GUIDANCE
DPICM	DUAL PURPOSE IMPROVED CONVENTIONAL MUNITION
DOD	DEPARTMENT OF DEFENSE
DON	DEPARTMENT OF THE NAVY
DPRB	DEFENSE PLANNING AND RESOURCES BOARD
DT	DEVELOPMENTAL TEST
DTDMA	DISTRIBUTED TIME DIVISION MULTIPLE ACCESS
DWFK	DEEP WATER FORDING KIT
EAAK	ENHANCED APPLIQUE ARMOR KIT
ECCM	ELECTRONIC COUNTER-COUNTERMEASURES
ECM	ELECTRONIC COUNTERMEASURES
ECO	ELINT COLLECTION OUTSTATION
EDM	ENGINEERING DEVELOPMENT MODEL
ELINT	ELECTRONIC INTELLIGENCE
EMC	ELECTRONIC MAINTENANCE COMPLEX

EMGUN	ELECTROMAGNETIC GUN
EMI	ELECTRO-MAGNETIC INTERFERENCE
EO	ELECTRO-OPTICAL
EOB	ELECTRONIC ORDER OF BATTLE
EOD	EXPLOSIVE ORDNANCE DISPOSAL
ER	EFFICIENCY REVIEW
ESS	ELECTRONIC INTELLIGENCE (ELINT) SUPPORT SYSTEM
EUCE	END USER COMPUTING EQUIPMENT
EW	ELECTRONIC WARFARE
EWSM	ELECTRONIC WARFARE SUPPORT MEASURES
FAC	FORWARD AIR CONTROLLER
FAT	FIRST ARTICLE TESTING
FDC	FIRE DIRECTION CENTER
FEBA	FORWARD EDGE OF THE BATTLE AREA
FHN&MC	FAMILY HOUSING, NAVY AND MARINE CORPS
FIE	FLY-IN ECHELON
FLIR	FORWARD LOOKING INFRARED
FLTSAT	FLEET SATELLITE
FM	FREQUENCY MODULATION
FMF	FLEET MARINE FORCE
FMFLANT	FLEET MARINE FORCE, ATLANTIC
FMFPAC	FLEET MARINE FORCE, PACIFIC
FO	FORWARD OBSERVER
FOCS	FIBER OPTICS CABLE SYSTEM
FSCC	FIRE SUPPORT COORDINATION CENTER
FSD	FULL SCALE DEVELOPMENT
FSED	FULL SCALE ENGINEERING DEVELOPMENT
FSSG	FORCE SERVICE SUPPORT GROUP
FTS	FULL-TIME SUPPORT
FY	FISCAL YEAR
GCE	GROUND COMBAT ELEMENT
GCS	GROUND CONTROL STATION
GP	GENERAL PURPOSE
GPH	GALLONS PER HOUR
GPS	GLOBAL POSITIONING SYSTEM
GTRS	GROUND THREAT RADAR SIMULATOR
HARM	HOMING ANTIRADIATION MISSILE
HAW	HEAVY ANTIARMOR WEAPON
HEAA	HIGH EXPLOSIVE ANTIARMOR
HEAT	HIGH EXPLOSIVE ANTITANK
HEAT-MP-T	HEAT-MULTI-PURPOSE-TRACER
HEDP	HIGH EXPLOSIVE, DUAL PURPOSE
HEMTT	HEAVY EXPANDED MOBILITY TACTICAL TRUCK
HFCC	HIGH FREQUENCY COMMUNICATIONS CENTRAL
HMMWV	HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE
HOW	HOWITZER
HP	HORSEPOWER
HQ	HAVE QUICK
HQMC	HEADQUARTERS MARINE CORPS
HUMINT	HUMAN INTELLIGENCE
IAC	INTELLIGENCE ANALYSIS CENTER

ICAD	INDIVIDUAL CHEMICAL AGENT DETECTOR
ICM	IMPROVED CONVENTIONAL MUNITIONS
IDASC	IMPROVED DIRECT AIR SUPPORT CENTRAL
IDB	INTEGRATED DATA BASE
IFF	IDENTIFICATION FRIEND OR FOE
ILLUM	ILLUMINATION
IMA	INTERMEDIATE MAINTENANCE ACTIVITY
IMC	INTEGRATED MANEUVER CONTROLLER
IMINT	IMAGERY INTELLIGENCE
IMS	INSTRUCTIONAL MANAGEMENT SYSTEM
INTEL	INTELLIGENCE
IOC	INITIAL OPERATING CAPABILITY
IR	INFRARED
IRR	INDIVIDUAL READY RESERVE
ISD	INSTRUCTIONAL SYSTEMS DEVELOPMENT
ISIS	INTEGRATED SIGNALS INTELLIGENCE SYSTEM
ISO	INTERNATIONAL STANDARDIZATION ORGANIZATION
ISOR	INITIAL STATEMENT OF REQUIREMENT
IU	INTERROGATION UNIT
JCS	JOINT CHIEFS OF STAFF
JINTACCS	JOINT INTEROPERABILITY TACTICAL COMMAND AND CONTROL SYSTEM
JSIP	JOINT SERVICE IMAGERY PROCESSING SYSTEM
JTIDS	JOINT UNIFORM MILITARY PAY SYSTEM/MANPOWER MANAGEMENT SYSTEM
KE	KINETIC ENERGY
KHZ	KILOHERTZ
LAAD	LOW ALTITUDE AIR DEFENSE
LAI	LIGHT ARMORED INFANTRY
LAAM	LIGHT ANTIAIRCRAFT MISSILE
LAW	LIGHTWEIGHT ANTIARMOR WEAPON
LAV	LIGHT ARMORED VEHICLE
LEWDD	LIGHTWEIGHT EARLY WARNING DETECTION DEVICE
LCAC	LANDING CRAFT AIR CUSHION
LEASAT	LEASED SATELLITE
LHD	AMPHIBIOUS ASSAULT SHIP (MULTIPURPOSE)
LIC	LOW INTENSITY CONFLICT
LLI	LONG LEAD ITEM
LOB	LINE OF BEARING
LPH	LANDING SHIP HELICOPTER
LRIP	LOW RATE OF INITIAL PRODUCTION
LVS	LOGISTICS VEHICLE SYSTEM
LWCMS	LIGHT WEIGHT COMPANY MORTAR SYSTEM
MACCS	MARINE AVIATION COMMAND AND CONTROL SYSTEM
MAG	MARINE AIRCRAFT GROUP
MAGIS	MARINE AIR GROUND INTELLIGENCE SYSTEM
MAGTEC	MARINE AIR GROUND TRAINING AND EDUCATION CENTER
MAGTF	MARINE AIR GROUND TASK FORCE
MARDIV	MARINE DIVISION
MAW	MARINE AIR WING
MAWTS-1	MARINE AVIATION WEAPONS AND TACTICS SQUADRON ONE
MBST	MARINE BATTLE SKILLS TRAINING
MBT	MAIN BATTLE TANK

MCAGCC	MARINE CORPS AIR GROUND COMBAT CENTER
MCAS	MARINE CORPS AIR STATION
MCB	MARINE CORPS BASE
MCCDC	MARINE CORPS COMBAT DEVELOPMENT COMMAND
MCCP	MARINE CORPS CAMPAIGN PLAN
MCCRES	MARINE CORPS COMBAT READINESS EVALUATION SYSTEM
MCLB	MARINE CORPS LOGISTICS BASE
MCMWTC	MARINE CORPS MOUNTAIN WARFARE TRAINING CENTER
MCON	MILITARY CONSTRUCTION, NAVY RESERVE
MCNR	MILITARY CONSTRUCTION, NAVY RESERVE
MCRDAC	MARINE CORPS RESEARCH, DEVELOPMENT, AND ACQUISITION COMMAND
MCSF	MARINE CORPS STOCK FUND
MEB	MARINE EXPEDITIONARY BRIGADE
MEF	MARINE EXPEDITIONARY FORCE
MEU	MARINE EXPEDITIONARY UNIT
MEU(SOC) CAPABLE	MARINE EXPEDITIONARY UNIT (SPECIAL OPERATIONS CAPABLE)
MEWSS	MOBILE ELECTRONIC WARFARE SUPPORT SYSTEM
MHZ	MEGAHERTZ
MILES	MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM
MIUW	MOBILE INSHORE UNDERSEA WARFARE
MLR	MEDIUM LIFT REPLACEMENT
MLRP	MARINE CORPS LONG RANGE PLAN
MLRS	MULTIPLE LAUNCHER ROCKET SYSTEM
MM	MILLIMETER
MMP	MAGTF MASTER PLAN
MORDT	MOBILIZATION OPERATIONAL READINESS DEPLOYMENT TEST
MOS	MILITARY OCCUPATIONAL SPECIALTY
MOUT	MILITARY OPERATIONS IN URBAN TERRAIN
MPF	MARITIME PREPOSITIONING FORCE
MPMC	MILITARY PERSONNEL, MARINE CORPS
MPN	MILITARY PERSONNEL, NAVY
MPR	MANPOWER
MPS	MARITIME PREPOSITIONING SHIPS
MRDP	MANPOWER REQUIREMENTS DETERMINATION PROGRAM
MRV	MISSION ROLE VEHICLE
MSC	MILITARY SEALIFT COMMAND
MTCCS	MARINE TACTICAL COMMAND AND CONTROL SYSTEM
MTS	MOVING TARGET SIMULATOR
MTWS	MAGTF TACTICAL WARFARE SIMULATION
MULE	MODULAR UNIVERSAL LASER EQUIPMENT
NALMEB	NORWAY AIR LANDED MEB
NATO	NORTH ATLANTIC TREATY ORGANIZATION
NAVCHAPGRU	NAVY CARGO HANDLING AND PORT GROUP
NBC	NUCLEAR, BIOLOGICAL AND CHEMICAL
NBCRS	NBC RECONNAISSANCE SYSTEM
NCA	NATIONAL COMMAND AUTHORITY
NCO	NONCOMMISSIONED OFFICER
NDI	NON-DEVELOPMENTAL ITEM
NDRF	NATIONAL DEFENSE RESERVE FLEET
NIPS	NAVAL INTELLIGENCE PROCESSING SYSTEM
NM	NAUTICAL MILE

NMCB	NAVY MOBILE CONSTRUCTION BATTALION
NOSC	NAVAL OCEAN SYSTEMS CENTER
NSA	NATIONAL SECURITY AGENCY
NSE	NAVY SUPPORT ELEMENT
NSF	NAVY STOCK FUND
NSFS	NAVAL SURFACE FIRE SUPPORT
NTS	NAVAL TELECOMMUNICATIONS SYSTEM
O&MMC	OPERATION AND MAINTENANCE, MARINE CORPS
O&MMCR	OPERATION AND MAINTENANCE, MARINE CORPS RESERVE
O&MN	OPERATION AND MAINTENANCE, NAVY
O&MNR	OPERATION AND MAINTENANCE, NAVY RESERVE
OPEVAL	OPERATIONAL EVALUATION
OPN	OTHER PROCUREMENT, NAVY
OSCC	OPERATIONAL SYSTEMS CONTROL CENTER
OSD	OFFICE OF THE SECRETARY OF DEFENSE
OT	OPERATIONAL TESTING
OT&E	OPERATIONAL TEST AND EVALUATION
OTH	OVER THE HORIZON
PAA	PROGRAMMED AIRCRAFT AUTHORIZATION
PALCON	PALLET CONTAINER
PCG	PROGRAM COORDINATION GROUP
PCPS	PORTABLE COLLECTIVE PROTECTION SYSTEM
PCS	PORTABLE CONTROL STATION
PDA	PRINCIPAL DESIGN ACTIVITY
PDR	PRELIMINARY DESIGN REVIEW
PEG	PROGRAM EVALUATION GROUP
PEI	PRINCIPAL END ITEM
PGTS	PRECISION GUNNERY TRAINING SYSTEM
PHLS	PORTABLE HELICOPTER LIGHTING SET
PIP	PRODUCT IMPROVEMENT PROGRAM
PLRS	POSITION LOCATION REPORTING SYSTEM
PMC	PROCUREMENT, MARINE CORPS
PME	PROFESSIONAL MILITARY EDUCATION
PMS	PEDESTAL MOUNTED STINGER
POL	PETROLEUM, OIL AND LUBRICANTS
POM	PROGRAM OBJECTIVE MEMORANDUM
PPBS	PLANNING, PROGRAMMING AND BUDGETING SYSTEM
PP&O	PLANS, POLICIES AND OPERATIONS
PSI	POUNDS PER SQUARE INCH
PWG	POM WORKING GROUP
QMA	QUALIFIED MILITARY APPLICANTS
QOL	QUALITY OF LIFE
QUADCON	QUADRUPLE CONTAINER
R&D	RESEARCH AND DEVELOPMENT
RB	RED BAG
R/DF	REPRODUCTION/DISTRIBUTION FACILITY
RDT&EN	RESEARCH, DEVELOPMENT, TEST AND EVALUATION NAVY
RETS	REMOTE ENGAGEMENT TARGET SYSTEM
RF	RADIO FREQUENCY
RFP	REQUEST FOR PROPOSAL
RHA	ROLLED HOMOGENEOUS ARMOR

RKT	ROCKET
RMP	REPROGRAMMABLE MICROPROCESSOR
ROC	REQUIRED OPERATIONAL CAPABILITY
RO/RO	ROLL ON/ROLL OFF
RPMC	RESERVE PERSONNEL, MARINE CORPS
RPN	RESERVE PERSONNEL, NAVY
RPPS	RETIRED PAY FERSONNEL SYSTEMS
RPV	REMOTELY PILOTED VEHICLE
RRC	RIGID RAIDER CRAFT
RRF	READY RESERVE FLEET
RWR	RADAR WARNING RECEIVER
SAAS	STAND ALONE ANALYSIS SYSTEM
SAL-GP	SEMIACTIVE, LASER GUIDED PROJECTILE
SAR	SEARCH AND RESCUE
SARTS	SMALL ARMS REMOTE TARGETS
SATCOM	SATELLITE COMMUNICATIONS
SCN	SHIPBUILDING AND CONVERSION, NAVY
SCRE	STRATIFIED CHARGE ROTARY ENGINE
SE	SUPPORTING ESTABLISHMENT
SEAL	SEA-AIR-LAND
SECNAV	SECRETARY OF THE NAVY
SFD	SUB-FIRING DEVICE
SHF	SUPER HIGH FREQUENCY
SIGINT	SIGNALS INTELLIGENCE
SINCGARS	SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM
SIXCONS	FUEL/WATER STORAGE AND PUMP MODULES
SLAR	SIDE LOOKING AIRBORNE RADAR
SLEP	SERVICE LIFE EXTENSION PROGRAM
SLOC	SEA LINES OF COMMUNICATION
SMAW	SHOULDER LAUNCHED MULTIPURPOSE ASSAULT WEAPON
SMCR	SELECTED MARINE CORPS RESERVE
SMK	SMOKE
SOC	SPECIAL OPERATIONS CAPABLE
SOI	SCHOOL OF INFANTRY
SP	SELF PROPELLED
SPEED	SYSTEMS PLANNING, ENGINEERING, AND EVALUATION DEVICE
SRI	SURVEILLANCE, RECONNAISSANCE, AND INTELLIGENCE
SRAW	SHORT RANGE ANTI-TANK WEAPON
STA	SURVEILLANCE AND TARGET ACQUISITION
TACAIR	TACTICAL AIR
TACC	TACTICAL AIR COMMAND CENTER
TACDM	TACTICAL DECISION MAKING
TAOM	TACTICAL AIR OPERATIONS MODULE
TADIL-J	TACTICAL DIGITAL INFORMATION LINK-J
TAH	HOSPITAL SHIP
TAMP	TERMINALLY GUIDED ANTI-ARMOR MORTAR PROJECTILE
TAVB	AVIATION LOGISTICS SUPPORT SHIP
TBD	TO BE DETERMINED
TCAC	TECHNICAL CONTROL AND ANALYSIS CENTER
TCC	TACTICAL COMMUNICATIONS CENTER
TCO	TACTICAL COMBAT OPERATIONS

TDMA	TIME DIVISION MULTIPLE ACCESS
T/E	TABLE OF EQUIPMENT
TERPES	TACTICAL ELECTRONIC RECONNAISSANCE PROCESSING AND EVALUATION SYSTEM
TFS	TACTICAL FUEL SYSTEM
TLB	TRAILER LAUNCHED BRIDGE
TOA	TOTAL OBLIGATIONAL AUTHORITY
TOW	TUBE-LAUNCHED, WIRE GUIDED, OPTICALLY-TRACKED MISSILE
TPCS	TEAM PORTABLE COMMUNICATIONS INTELLIGENCE SYSTEM
TPCSDS-T	TARGET PRACTICE CONE STABILIZED DISCARDING SABOT-TRACER
TP-T	TARGET PRACTICE-TRACER
TPSDS	TEST PROGRAM SET DEVELOPMENT SYSTEM
TRE	TACTICAL RECEIVE EQUIPMENT
TRI-TAC	JOINT TACTICAL COMMUNICATIONS OFFICE
TRNG	TRAINING
TRSS	TACTICAL REMOTE SENSOR SYSTEM
TT	TURRET TRAINER
TWSEAS	TACTICAL WARFARE SIMULATION EVALUATION AND ANALYSIS SYSTEM
UDP	UNIT DEPLOYMENT PROGRAM
UGWS	UPGUNNED WEAPON STATION
UHF	ULTRA HIGH FREQUENCY
ULCS	UNIT LEVEL CIRCUIT SWITCH
USA	UNITED STATES ARMY
VHF	VERY HIGH FREQUENCY
V/STOL	VERTICAL SHORT TAKE OFF AND LANDING
WB	WHITE BAG
WP	WHITE PHOSPHOROUS
WPN	WEAPONS PROCUREMENT, NAVY
WTI	WEAPONS AND TACTICS INSTRUCTOR

WEDNESDAY, FEBRUARY 21, 1990.

FISCAL YEAR 1991 ARMY POSTURE

WITNESSES

HON. MICHAEL P.W. STONE, SECRETARY OF THE ARMY

GENERAL CARL E. VUONO, CHIEF OF STAFF, UNITED STATES ARMY

LIEUTENANT GENERAL DONALD S. PIHL, MILITARY DEPUTY, OFFICE OF RESEARCH, DEVELOPMENT, AND ACQUISITION, UNITED STATES ARMY

MAJOR GENERAL MERLE FREITAG, DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR BUDGET, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT)

INTRODUCTION

Mr. MURTHA. The Committee will come to order.

Today, the Committee considers the budget estimates of the Department of the Army for fiscal year 1991. The Army budget considered by this Committee is $72,793,700,000, a decrease of $2,503,707,000 from enacted appropriations for fiscal year 1990. In addition, the budget assumes that Congress will transfer $860,300,000 from fiscal year 1990 appropriations to fund the procurement of M-1 tanks. The Army is the only service for which the budget request is an actual decrease from the current year.

The Committee is pleased to welcome the Honorable Michael P. W. Stone in his first appearance before the Committee as Secretary of the Army. Accompanying Secretary Stone is General Carl E. Vuono, Chief of Staff of the Army.

It looks like the Army is bearing the brunt of the cuts that were made in the DOD and we are not sure we understand why.

We know it is going to be a tough year, and you might address, either yourself, Mr. Secretary, or the Chief of Staff, what you would do if the budget were rearranged a little bit so that the Army had some more money. It looks like force structure is being cut dramatically and training and readiness items are being reduced. We would like to know your feelings about it. We realize you have to defend the Defense Department, but we want you to give us an idea of the impact of this budget on the Army.

We look forward to hearing your statement.

If you will summarize your statement and then we will put your entire statement in the record. Mr. Secretary.

SUMMARY STATEMENT OF SECRETARY STONE

Secretary STONE. Thank you, Mr. Chairman. I am sure that the Chief and I will try to address in our answers, and partially in our preparatory remarks, the fundamental issues that you have just raised. Before that, I would like to offer a few general words of introduction. I have submitted a formal statement for the record, but

these are further comments that I would like to make for a couple of minutes.

FORMER SECRETARIES OF THE ARMY

As you said, this is the first hearing of this sort that I have been privileged to attend as Secretary of the Army. I rather envy my predecessor, Jack Marsh, who presided over a historic eight-year rebuilding of the Army. He could sit at this table and propose identifiable threats as justifications for specific lines in the budget. We were in a cold war, and all here could visualize real enemies who posed threats considerable enough that countering them was justification for the expenditure of our citizens' money. But much has changed in this past year. Today, I expect to be asked about the threat, the size of the Army, and the need for continued high expenditures. These are valid questions, but they are not new questions.

I spoke of your old colleague, Jack Marsh. Recently, we hung his formal portrait in a hallway in the Pentagon. Several of you were at the ceremony. I looked around at that time at the gallery where the portraits of all Secretaries of the Army are hung. Many were men who at times like this—times characterized by victory, times with a reduced threat to our national interests—have had to come to this Capitol to answer questions from your predecessors on the size and missions of an Army at peace. Many of my predecessors were men of eloquence, but they, in the main, failed to be eloquent enough to stem the euphoria of the moment: they failed to dampen the enthusiasm to declare the most recent war the last and the Army an expensive anachronism. We have paid for this lack of eloquence or persuasiveness.

But their task was clearly difficult. No one can see the next threat clearly. Edwin Stanton's "threats" after the Civil War were the French in Mexico and the British in Canada. Who could have foreseen our next war after the taming of the West would be in Cuba and the Philippines and that our next enemy, would be Spain? John Weeks served as Secretary of War for Harding and Coolidge. He saw an Army which had won the "war to end all wars." He saw an Eastern Europe newly released from bondage and testing new freedoms daily, a Russia torn by revolution and civil war, and a Gemany which had no Navy and little Army to speak of. The most seriously discussed threat of the era was the British Fleet. What did we do when Weeks was Secretary of War? The 8th Infantry, on January 23, 1923, hauled down the U.S. colors from Fort Ehrenbreitstein, our last post in the Rheinland, and marched home. On April 6, 1945, soldiers of the same 8th Infantry, with others, re-raised that same flag over that same fort—the flag had been saved in the Army's archives. Incidentally, 45 years later, it is interesting to note that one battalion of the 8th Infantry has already been inactivated and two of the remaining three battalions are at risk in the current Army force reduction plan. We paid a price for our lack of foresight in the twenties, just as we have so often in our Nation's past "in times of victory."

ROLE OF THE ARMY

Frankly, none of my predecessors were wholly successful in convincing our Nation that, notwithstanding the lack of an immediately recognizable threat, our country would always need a ready, trained and deployable Army. But we are smarter now, I hope. We have learned the benefits of forward basing some of our Army. We have learned that prices have to be paid in modernization, training, and force structure to be prepared to fight the next unforeseeable fight. We have learned in a cold war, that is perhaps ending, that a ready Army by its very being can deter a hot war.

Your Army is wanted and needed: In Europe, in the Far East, and in readiness in the United States to deploy worldwide. Not as a symbol, not as a tripwire, but as a ready, capable trained force. When it is asked to fight—as it was in Panama—you will want it to demonstrate that it is the best there is. You will not want us to have to learn in order to win, as so many American armies through history have had to learn on the job.

REDUCTION IN FORCE

Two final points, if I may, Mr. Chairman. We agree, and it is the conclusion of the Chief and myself and our respective staffs, that the Army is going to get smaller in the next couple of years. We agree with that view, but we do hope that the Congress does not ask us to do that too quickly. I have only been in the Army for four years, but during that time—and also to some extent before then—I have come to know many armies around the world and one of the characteristics of our Army that is preeminent, I think, is the quality of our non-commissioned officer force. The Active Army's end strength for fiscal year 1990 is 744,169 soldiers; we have 371,000 enlisted people in the grades of E-1 to E-4.

We have a little more than 100,000 officers and we have over 270,000 NCOs in the grades of E-5 to E-9, and they are the heart, blood, and core of our Army.

These are men and women who, without any written obligation on our part, have pledged their professional lives to the United States, and we need to be able to acquit our moral obligation to those people and to be able to structure and shape the force to do that.

MODERNIZATION

The second and concluding comment is I am, in addition to my other responsibilities in the Army, the Army Acquisition Executive and I have four key modernization plans which, in the Army's judgment and mine, we need to be able to continue.

We need to modernize and complete the modernization of our air defense force. We need a light helicopter. We need an anti-tank infantry weapon, and we need to complete the modernization of our armored force to meet the century-end threat.

These are relatively modest programs in the 1991-92 period, all around the $500 million funding level.

We have cancelled 15 programs, but we can't cancel any more, in my judgment, in our procurement accounts. So we do need these, and in my formal remarks, I emphasize them.

This is the conclusion to these remarks and I look forward to your questions.

[CLERK'S NOTE.—The Joint Posture Statement by the Secretary of the Army and the Chief of Staff of the Army is printed at the end of this hearing. See page 923. The statement of Secretary Stone follows:]

BIOGRAPHY OF THE HONORABLE MICHAEL P. W. STONE
SECRETARY OF THE ARMY

Mr. Michael P.W. Stone was sworn in on 14 August 1989 as the 15th Secretary of the Army. Since 24 May 1988 he served as the Under Secretary of the Army. While the Under Secretary of the Army he also served simultaneously as the Army Acquisition Executive and Senior Procurement Executive from 26 May 1988 until 13 May 1989. Additionally, while serving as the Army Under Secretary he performed the duties of the Under Secretary of Defense for Acquisition from 13 May 1989 until 10 August 1989.

Mr. Stone began his career with the Army on 27 May 1986 when he was appointed the Assistant Secretary of the Army for Financial Management, serving in this capacity until 23 May 1988. While in this position he also served concurently as the Acting Under Secretary of the Army from 28 February 1988 to 23 May 1988.

Mr. Stone's first U.S. government position was in July 1982 when he joined the Agency for International Development (AID) to become Director of the U.S. Mission in Cairo, Egypt. That Mission is responsible for administering the United States Economic Assistance Program in Egypt, AID's largest administered program. Mr. Stone's responsibilities there included the execution of 65 major projects. When he returned to the United States at the end of 1985, Mr. Stone undertook a new AID assignment implementing the Kissinger Commission recommendations in Caribbean Basin Initiative countries, particularly Honduras, Guatemala, Costa Rica and Jamaica.

Mr. Stone's business experience has been primarily in the paper industry. He was a founding partner in the early 1950's of a marketing and manufacturing paper company operating world-wide and based in San Francisco, California. Between 1960 and 1982 Mr. Stone was both Vice-President of the parent company and also President of several of the parent company's subsidiaries. The parent company also started an integrated vineyard operation in California during this period, and Mr. Stone was President of that company as well from 1969 until 1982.

Mr. Stone began his military service in March 1943 at the age of 17, when he joined the British Royal Navy. He was sent to the United States for pilot training, and served first at Grosse Ile Naval Station in Detroit. In 1944 he graduated from Pensacola Naval Air Station and then, after completing fighter school at Jacksonville Naval Air Station, Florida, he was assigned to the British carrier HMS Glory and served in the Mediterranean and the Far East as a member of 1831 Squadron flying F4U Corsairs. During this period, Mr. Stone was also detached to a Royal Air Force base in England and completed a special low-level reconnaissance course flying Spitfires. 1831 Squadron completed its World War II service by participating in the surrender of the Japanese forces at Rabaul, New Guinea in September 1945.

Mr. Stone was born in London, England in 1925 and has resided in the United States (except for his military service) since 1929. Mr. Stone is married to the former Ann Donogh of Seattle, Washington. They have two married sons, Prescott and Matthew. Mr. Stone received a B.A. from Yale University in 1948 and later studied at New York University Law School. He present resides in Washington, D.C., while his permanent home is in San Francisco, California.

STATEMENT BY THE
HONORABLE MICHAEL P.W. STONE
SECRETARY OF THE ARMY
FISCAL YEAR 1991
DEPARTMENT OF THE ARMY
BUDGET OVERVIEW

Mr. Chairman and Members of the Committee:

It is a pleasure for me to appear before the Committee today to report on the state of the United States Army in 1990 and to outline Army priorities for the coming years. On this, the threshold of a new decade, I am proud to inform you that we enter these uncertain and exciting times with a trained and ready Army, the most capable peacetime force in our history.

The Army's participation in Operation Just Cause, the largest, most complex contingency deployment and employment of United States forces since World War II, was an unambiguous demonstration not only of substantial improvements in joint warfighting and of the superb capabilities of our contingency and special operations forces, but also of the validity of six fundamental imperatives that have guided, and will continue to guide, the development of the Army for the future--quality soldiers and civilians, forward-looking warfighting doctrine, appropriate size and mix of forces, tough and realistic training, necessary modernization, and competent leaders..

While the operations in Panama are foremost in our minds, we must not forget that during the past year our Army successfully accomplished many other missions. Some examples include the maintenance of our forward-deployed forces in Europe and Korea, which continued to demonstrate support for our NATO and Asian allies. The implementation of the Intermediate-range Nuclear Force treaty continued with the destruction of Pershing missiles at Army supervised sites and the participation of Army personnel in monitoring Soviet compliance. The Army continued support to United Nations peacekeeping missions in the Middle East as well as to Joint Task Force Middle East's operations to protect shipping in the Persian Gulf. Army support also continued for a broad range of security assistance and nation building programs in over 130 countries.

During 1989 the Army exercised capabilities that spanned the range of roles and missions on the domestic front. Our soldiers support disaster relief efforts in the wake of Hurricane Hugo, the San Francisco earthquake, the Alaskan oil spill, and numerous forest fires in the western United States...Additionally there was a significant increase in Army support for federal drug interdiction efforts, with increased support to federal, state, and local law enforcement agencies, as well as to other governments, and the establishment of a major joint service headquarters at Fort Bliss, Texas.

The success of these operational missions and new management initiatives are testimony to the dedication and commitment of our soldiers and civilians. The Army is well positioned to face the challenges of the new decade.

THE INTERNATIONAL SECURITY ENVIRONMENT

Our strategy is based on the tenets of forward-defense, coalition warfare, and flexible response. It is forward-deployed, globally oriented,

and focused on the NATO Alliance. The question we now face is whether our Army is properly structured and equipped to meet the emerging strategic requirements of the 1990s and beyond.

As we enter the 1990s, our Nation faces a significantly more complex and varied security environment than at any time in our recent history. This environment must frame our defense requirements for this new decade and beyond. The world has become multipolar and thus less subject to superpower influence. The world economy is becoming more integrated with the development of new centers of influence. Allies are becoming more assertive in pursing their interests. The turbulent developments of the past year give us grounds for cautious optimism as well as cause for increased concern.

Within the Soviet Union, President Gorbachev's programs of perestroika and glasnost suggest that Soviet emphasis on massive military power, centralization, confrontation abroad, and repression at home is changing, at least temporarily. We encourage these positive developments, but we also recognize that their stated intentions are in a rudimentary stage of implementation. Despite unilateral cuts, the Soviets have never talked of reducing their readiness of their forces and their modernization effort continues. Indeed, the new emphasis appears to be on quality as the Soviet Union implements President Gorbachev's announced force withdrawal and restructuring programs. There are many encouraging signs of a reduction of the Soviet military threat worldwide, but it will take time for the final results to become apparent. Meanwhile, United States military posture must be designed to meet capabilities, not stated intentions.

A second area of major concern is the increasing instability in Eastern Europe and within the Soviet Union itself. Recent events in Poland, Hungary, Romania, East Germany, Czechoslovakia, and Bulgaria clearly demonstrate the volatile nature of events within the Warsaw Pact. And within the Soviet Union itself, growing nationalism and ethnic unrest further complicate their situation and contribute to uncertainty and instability.

Developments in the Third World, where conflict is all too frequent, often threaten United States security interests. The military forces of many of these countries are now equipped with modern, lethal weapons systems. Economic and domestic problems in these countries provide the background for increasing instability and fertile ground for insurgency. In light of the proliferation of modern weapons in the developing world, this potential for increased stability and conflict poses a significant threat to our national security.

In an era of decreasing superpower tensions, international terrorism has emerged as a primary threat to United States policy, citizens, and the military. Not constrained by political frontiers, and aided by relatively easy access to arms and munitions, the international terrorist can strike across the globe virtually at will. Terrorism often becomes the prime weapon of the weak against the strong.

The continuing flow of illegal drugs into the United States and the demand for such drugs in our society have created an unprecedented and perplexing threat to our national security. Compounding this major threat is the indication that terrorist groups are becoming more involved in narcotics trafficking because it offers lucrative sources of revenue and a network for obtaining sophisticated arms and explosives. As the federal campaign

against drugs intensifies, the potential threat to American lives and vital interests will increase.

The vital interests of the United States are increasingly linked with those of our allies and other friendly nations. Our coalition strategy, working in cooperation with allies and friends to protect our mutual interests, has produced an unprecedented period of peace and stability in Europe and Northeast Asia. The evolving international environment is, however, making alliance relations more complex, with several close allies emerging as leading economic powers in their own right. Changing political and economic conditions will affect allied security arrangements, and there is potential for an evolution in the sharing of defense burdens and risks.

There are also certain domestic realities which have substantial impact on the security environment. As a Nation, we face numerous domestic problems which call for the commitment of increasing amounts of our already limited national resources. This, coupled with a growing sense of euphoria over events in the Soviet Union and Eastern Europe, has created a climate where pressure for cuts in the defense budget is growing.

THE STRATEGIC ROLE OF THE ARMY

The increasingly complex international security environment and the uncertainties of the future demand a national military strategy which is multi-dimensional and oriented on defending our national interests wherever and whenever they are challenged. The Army is an indispensable component of this military strategy. As the first echelon of strategic deterrence, the Army provides sustained land combat power to defend the vital interests of our Nation and to protect the values on which this Nation was founded. The Army fulfills essential strategic roles. Army forward-deployed forces stand ready to respond immediately in critical areas of the world, contingency forces provide forced-entry capabilities for insertion into threatened areas, and reinforcing forces are available for maintaining sustained land combat. In addition, Army short-range nuclear forces provide an essential link between conventional forces and intercontinental nuclear forces. Finally, the Army provides regional peacekeeping forces, security assistance to allies and friends, and support to civil authorities. All of these critical Army strategic roles have been, and will continue to be, essential to the defense of the United States and the protection of our vital interests worldwide.

SHAPING THE STRATEGIC ARMY

An analysis of the trends in the international environment and the strategic roles the Army would be called upon to fulfill in the 1990s has made it clear that the Army should be restructured to meet the complex and uncertain world of the future. The Army will be smaller, but it must also be expansible to meet contingencies. Although it may have fewer forces forward-deployed, it must have the ability to rapidly respond to all areas of vital interest to our Nation. Finally, it must be as capable as today's Army in fulfilling its strategic roles.

The Army of the future must be a balanced force, it must be modernized, trained, and ready to respond on short notice as required by our national military strategy. The Army must be shaped, not by short

term, narrow interests, but rather by a strategic vision of the future. We must ensure that deterrence, stability, and ongoing arms control negotiations are not undermined by premature or excessive reductions in forces or capabilities. The wide array of potential threats to the vital interests of the United States requires an Army that is versatile, deployable, and lethal. The requirements presented in the 1991 budget reflect only the first step in the evolutionary process of shaping the strategic Army of the 1990s and beyond.

A quality force is paramount to meeting the strategic challenges of the future with a smaller Army. Quality people have been the key to our recent successes and these experiences have strengthened our conviction that we must continue to attract and retain the best educated, motivated, and ambitious young men and women our Nation has to offer. We must provide our soldiers, civilians, and their families with the kind of environment that stimulates their professional and personal growth. Quality people demonstrate the initiative, competence, and spirit necessary for a dynamic, flexible force. Quality soldiers and civilians, led by competent, confident leaders, continue to be the highest priority for the Army. More than any other single characteristic, the quality of the people will determine the versatility of the future Army.

Sustaining the readiness of the Army through this time of transition is essential. Tough, meaningful, and realistic training will continue to be the cornerstone of readiness for the Army. In view of the rapidly changing international environment, the precise time, location, and nature of the threat will always be uncertain. The Army must be able to respond to these contingencies without the need for extensive delays for retraining or mobilization. This versatility demands intensive, realistic training.

The worldwide nature of United States' interests and our national strategy will require an Army that is deployable. Our deployability needs can best be achieved through a combination of forward deployed forces and contingency and reinforcing forces based in the United States -- forces that are structured and equipped for easy deployability. It is apparent that we cannot count on having forces forward-deployed in every crisis area. Accordingly, we must invest wisely in strategic sea and air lift -- elements that are essential to our deployability and the preservation of our Nation's vital interests.

If the Army is to sustain a trained and ready force with the lethality necessary to meet strategic requirements, we must continue to modernize. Lethality is the assured capability to defeat an opponent, winning as quickly as possible to preserve our most valued asset - the lives of our soldiers. Maintaining lethality requires modernization, a continuous process which reflects our strategy, doctrine, technological advantages, and overarching commitment to providing our soldiers with the best equipment possible. We recognize that resources are limited, but we also know that our modernization strategy must support future wartime requirements and threat capabilities as well as fiscal realities. Modernization must capitalize on our advantages and strengths while exploiting the vulnerabilities and weaknesses of our potential adversaries. To develop our future capabilities on time, we will continue to emphasize aggressive research and development in key technologies that will provide the greatest increase in warfighting capability for each dollar spent. We must also be careful to

protect and nurture the technological base and systems that are key to future modernization.

MANAGEMENT INITIATIVES

Throughout this process the Army has, and will continue, to review and improve Army management to ensure efficiency and effectiveness. Several years ago the Army began implementing the recommendations of the Packard Commission. Thus the Army was well poised to improve existing management practices in response to the recent Defense Management Review. The Army Management Review focused on three key elements: streamlining acquisition management, developing a corps of acquisition specialists, and introducing a series of new management initiatives.

In 1987 the Army, responding to recommendations from the Packard Commission, streamlined acquisition management by creating a three-tier reporting chain with project managers reporting through the program executive officer to the Army Acquisition Executive. In addition, as a result of the Army Management Review, the project managers and program executive officers will be resourced directly from the Department of the Army, rather than through other commands.

The Army Acquisition Corps is the Army's program to develop a dedicated corps of military and civilian specialists. When fully implemented, this corps will consist of approximately 3,000 officers and 1,300 civilians who will fill designated acquisition positions to guide the development and fielding of new systems. Centralized management will integrate education, experience, selection, and assignment processes to ensure that both military and civilian acquisition specialists are trained and certified, and developed as the acquisition leaders of the future.

The Army is also considering various management initiatives to reduce costs. Over 45 initiatives to improve efficiency and effectiveness while reducing costs are being considered, with many approved for implementation. These include streamlining and consolidating Army laboratories, improvements in logistics systems, streamlining contract management, and reducing supply system costs. Most importantly, this review is not a one-time effort, but rather a continuing process which will serve us well in the coming years.

The initiatives of the Army Management Review are not the only management improvement projects designed to sustain and support the Army of the 1990s. Other programs of note include environmental enhancement and compliance, Army Communities of Excellence, base realignments and closures, chemical demilitarization, civilian personnel management improvements, and Total Quality Management.

During 1989 the Army took significant steps to ensure compliance with all federal, state, and local environmental laws and to adhere to host nation laws and status of forces agreements overseas. Environmental awareness is being integrated into systems development, production, logistics management, acquisition operations, and all other functional areas. In addition, the Army has made excellent progress in cleaning up contamination from past disposal activities. Over 7,000 defense sites, formerly owned by the military services, have been identified thus far for

investigation and cleanup, if appropriate. The Army recognizes its obligation to act as the steward of the natural resources within its control.

The Army's ability to accomplish its mission depends upon the performance of its people, and Army communities are vital forces which shape individual performance. The Army Communities of Excellence (ACOE) program is based on the principle that communities best support people by combining excellent facilities with excellent services. While some resources are necessary to improve stark, aging, or inadequate facilities, excellence in service often requires only committed leadership. The results of this program are apparent in the vastly improved quality of life, improved recruiting and retention, increased productivity and performance, and increased readiness of our force.

The Army has begun implementing the decisions of the 1988 Base Realignment and Closure Commission. The goals of Army planning are to ensure that maximum economies and efficiencies are achieved with minimal disruption to the Army's missions. Project management planning, environmental assessments, manpower requirements, and programming and budgeting are required to execute these actions. The process is dynamic, and lessons learned from this will serve us well as we transition to a smaller Army in the 1990s with further base closings and realignments. The resulting base structure will be smaller but will retain flexibility for the future.

A fourth major initiative has been in the area of chemical demilitarization. Destruction of our obsolete unitary chemical stocks will begin at Johnston Atoll in 1990 during an operational verification of the new chemical agent disposal system. After verification, facilities will be constructed, and the remaining unitary stockpile will be destroyed at eight storage locations. This project will save millions of dollars in storage and maintenance costs. Concurrently, the Army is planning for the accelerated withdrawals of the unitary chemical munitions now forward-deployed in Germany.

Because the quality of the civilian work force is a critical supplement to the quality of its soldiers, the Army has begun a Civilian Personnel Modernization Project to address those factors critical for the retention of a high quality civilian force. Among those factors are professional development, effective leadership, competitive pay and benefits, and recognition for a job well done. The goal of this long-term, continuous program is to enhance the readiness of the Army through a modernized, flexible civilian personnel system.

Finally, the Army is firmly committed to a philosophy of organized, continuous improvement which involves everyone in the Department working together in an integrated effort. Our philosophy of Total Quality Management integrates fundamental management techniques, existing improvement efforts, and technical tools into a disciplined approach focused on continuous process improvement. As we move forward into the 1990s, Total Quality Management will enable us to fully tap the potential of our people and technology to produce significant improvements in quality, productivity, and efficiency.

CHALLENGES OF THE FUTURE

We have a clear vision of what the future demands. We know the strategic roles we must execute, and we understand the qualities the Army must have in the next century. As we chart a course to ensure that we can meet our responsibilities, however, we confront a series of challenges that must be overcome.

First, we face a challenge in maintaining a quality force. As the Army is restructured over the next five years, it will become even more important that we recruit and retain the cream of American youth. A smaller Army, equipped with more modern weapons, and facing a more complex international threat , will demand increasing versatility and initiative from each soldier. Additionally, since civilians comprise nearly one-fourth of Army strength and perform critical logistical, research and development, and base operations functions, it is essential that we attract and retain the best. There is no substitute for quality.

Next we face a challenge in maintaining necessary modernization within constrained resources. Our modernization strategy is based on our analysis of threat capabilities and future wartime requirements. We will reduce or cancel those modernization programs which are useful but not required by our strategic missions in the years ahead. We will continue those programs which provide essential capabilities and we will maintain an adequate investment in promising technologies and in our industrial base. We are also challenged to ensure that, through our acquisition program, we impose appropriate procurement criteria to get the best value from our resources. While the pressure will be great to make substantial cuts in the budget, we cannot sacrifice our future warfighting capabilities to budgetary expediency.

The third major challenge is to shape Army force structure to meet the requirements of our national strategy. The 1991 budget is not an end state but merely a step in the evolution of the Army of the future. While the dramatic events in the Soviet Union and Eastern Europe have created an atmosphere of goodwill and reduced tensions, we must not forget the current capabilities of our potential enemies and worldwide instability. We must guard against untimely and unilateral force cuts that would undermine arms control negotiations and seriously jeopardize the defense of our Nation and our allies. The Army of 1995 will be significantly smaller, but it will also be a balanced force that is versatile, deployable, and lethal.

Finally, we face a challenge in maintaining the viability of our national strategy in the midst of our Nation's fiscal realities. If we are not careful, we will create a new and insidious kind of deficit — a security deficit that, if not brought under control, will impose unacceptable risk to our Nation in the years ahead.

CONCLUSION

Throughout our Nation's history the Army has been shaped and molded to meet the changing requirements of national strategy. Through these next years we will continue to shape the Army to meet the needs of the Nation. We must maintain an Army with capabilities spanning a broad continuum and with the flexibility to respond to rapid changes.

I am proud of the accomplishments of the Army. Our Army has proven itself truly trained and ready as it has answered the call to duty throughout the world, from Germany to Korea and from Panama to the fire-scorched mountains of our own western states. We are ready to face the challenges of the future.

Mr. MURTHA. General Vuono?

SUMMARY STATEMENT OF GENERAL VUONO

General VUONO. It is a pleasure to be here again this year. I will submit my formal statement for the record.

Last year when we testified before your committee, Congressman Whitten had a picture of you in battle uniform at the Fulda Gap, and he said that picture struck such fear into the Russians, it brought them to the negotiating table.

I wonder what will happen when they see you wielding that Viking ax?

FISCAL YEAR 1991 DEFENSE BUDGET

We are here to discuss the 1991 budget, but I think it is important to put into context the way we plan to shape the Army in 1990 and beyond because decisions made in submitting the 1991 budget were based on the vision of the kind of Army that we want in the nineties and beyond. The decisions we are making and the budget you are acting on are the first step in determining the force we will have in the 21st century.

Today's Army is better trained, and Operation Just Cause in Panama demonstrated that fact. We wouldn't be where we are today without your support, the support of the members of this committee, and the support of the American people especially during the past decade. Together we have ensured that we have a trained and ready Army and quality soldiers.

The 1991 budget is part of a larger plan that accommodates the changing threat and the fiscal realities. As you know, 1991 will be the sixth consecutive year of negative real growth in the Army budget. I see no improvement of that in the next few years, so the Army's plan represents what I call a measured approach that I believe will allow us to fulfill our roles in United States national security strategy over the years ahead.

REDUCTION IN FORCE

We had to make some gut-wrenching choices. In essence, we decided to reduce the size of the total force—not just end strength, but structure, and that is an important distinction for all of us to remember, that we took structure commensurate with end strength. We did that, and we are prepared to accept some near-term risks in doing it, so that we can protect the quality and the readiness of the Army today and through the nineties. In my judgment, quality and readiness are not optional, they are essential. There is no substitute for quality and there can be no retreat from readiness as far as I am concerned.

So we plan to systematically build down the Army. We will build down our five corps, twenty-eight-division Army to a smaller corps and division force structure over the next five years.

If you ask me what I would do if there was a reallocation of resources, I would tell you that I would not add back structure into the Army, but put the money into maintaining quality and readiness and ensure that our modernization efforts continue into the

future. That would be the choice that we would make in the Army if the resources were different than they are now.

Restructuring with an all-volunteer, quality force is unprecedented. Our challenge is to reshape the force while maintaining the capabilities needed to support U.S. national military strategy; without undermining the unprecedented arms control negotiations that may be about to bring about significant security benefits to East and West; and while fulfilling our obligations to the soldiers and civilians whose dedication has been indispensable in producing the positive changes we are witnessing around the world. Sometimes we lose sight of the fact that democracy is winning and the reason for that, in large measure, is due to the capable military force that we have today. We must also continue to invest in the modernization and the development of our future force and its leaders. In other words, we cannot declare a time-out in order to reshape the Army. Meeting these challenges, then, will require extremely disciplined planning and execution by the Army, as well as your understanding and support.

To focus our planning efforts, we determined the size and characteristics of the force we felt our Nation would need in the nineties. We considered the history of previous large Army reductions, the evolving threat, and resource projections.

The demobilizations that followed World War II, Korea, and Vietnam caused a sharp decline in the capabilities of the force as the Army released large numbers of soldiers from its ranks. We found that as a result of these lost capabilities, Army forces suffered substantial and avoidable losses when subsequently committed to unanticipated combat.

For example, in the first 16 days of the Korean War—26 June to 11 July 1950—one Army division suffered 3,000 casualties. One unit from that division, Task Force Smith, lost almost one-third of its soldiers and one-half of its officers in their initial engagement. There is ample evidence to link the unit's performance to the hasty and haphazard way in which the Army was forced to demobilize following World War II. Similar examples have been repeated throughout our history.

I resolved that building down and reshaping today's professional, volunteer force would benefit from the lessons of these past demobilizations. We are reshaping, not demobilizing this Army. We intend to protect the quality and the readiness of the Army to ensure that the United States can continue to meet unexpected threats over the coming decade without needlessly risking the lives of soldiers by failing to provide the resources and the training necessary to prepare them for combat.

SOVIET THREAT

While our analysis led us to conclude that there was cause for cautious optimism about the Soviet threat, the future remains uncertain as potential threats to U.S. interests become more volatile and increasingly sophisticated elsewhere as Secretary Stone outlined in his opening statement.

I would remind you that while the Soviet Union is cutting back in the near term, if ones looks at their R&D programs, you will see

that they are not cutting back on their plans for modernization. As a matter of fact, I don't know of one weapon system that they have canceled. I know of many that we have had canceled.

So we concluded that failure to exploit fast-moving technological advances would place the U.S. at a distinct disadvantage in the 21st century. We must ensure that the future Army has the warfighting capability to decisively deal with any potential foe. We determined that it was best to accept some near-term risk—particularly in equipping the force—in order to protect future modernization. You will see that in our budget.

We also determined that the Army of 1995 would have to be a versatile, deployable, and lethal force capable of countering a wide array of potential and unpredictable threats. It must have an appropriate mix of Active and Reserve Component light, heavy and special operations forces, be adequately modernized and fully trained, and be ready to respond on short notice, as we did in Panama, to challenges across the spectrum of conflict.

QUALITY OF THE FORCE

I have addressed at some length in my written statement the requirements for versatility, deployability, and lethality and the six imperatives that have produced today's trained and ready Army and that the essential beacon for shaping the future force. In the interest of time, let me focus on the two imperatives that I believe are the most important for our discussions here today, quality and modernization.

As we get smaller, maintaining the quality of the force will be absolutely essential. While the key to this will be our people, quality is an all-encompassing characteristic and requires adequate resources not only for advertising, recruiting incentives and acceptable levels of pay and benefits, but also for appropriate working and living conditions, challenging training opportunities, and the potential for advancement and development consistent with the private sector.

Let me give you an example of why quality is so important. During Operation Just Cause, our soldiers went from Christmas shopping to combat in the most ambitious coordinated nighttime airborne and ground assault operation in our history in less than 60 hours. We had a contingency force that reinforced forward deployed forces, and you had soldiers Christmas shopping on Monday and in Panama on Wednesday morning.

In less than 12 hours, they had secured their operational objectives across the Republic of Panama, virtually eliminated organized resistance, and returned legitimate democratic government to the Panamanian people. This success could not have been possible without the quality Army we have today. Maintaining quality in all aspects of the force will continue to be the top priority in the Army of the 1990s and beyond.

I need your help to ensure we have the flexibility to prudently manage our force reductions so that they have the least impact on our quality force. We have a plan. We think it is a reasonable plan to allow us to evolve that force. What I need is your help in allowing us to execute that plan.

MODERNIZATION

A couple of words about modernization. We are committed to developing and deploying the weapon systems needed for the future within our fiscal constraints. To do otherwise is to put the Nation and our soldiers at risk in dealing with future highly sophisticated and technologically advanced threats throughout the world.

We have a strategy, consistent with our view of the evolving threat, to tightly manage our modernization program. This strategy is based on accepting some risk over the near term by modernizing only the most essential warfighting capabilities while protecting future modernization and the technology base. We have, therefore, decided to terminate some programs and to focus our limited resources on the development of future systems. We also need your help to ensure that we don't mortgage our future for nonessential near-term capabilities.

The Army recognized some time ago that to shape the future Army properly, we must manage the change. The fiscal year 1991 budget we submitted provides for the first year of a program that will achieve this end.

We have already stretched ourselves as far as we believe responsible. Our proposed reductions are at the most rapid rate that will allow us to maintain needed capabilities as we reshape the Army. More rapid reductions, in my view, threaten to "fracture the force," causing unacceptable degradation of near-term quality and readiness; requiring us to forego capabilities we deem essential for the future; and precipitiously removing large numbers of quality soldiers and civilians from the forces.

I must stress that we are not demobilizing a draftee Army at the conclusion of a major conflict. We are reshaping a professional, volunteer force during a period of extraordinary turmoil and instability in the international environment.

We must not forget that the United States has worldwide responsibilities and, therefore, must have a powerful, capable Army that is trained and ready to respond to unforeseeable crises that may arise during this difficult period.

Mr. Chairman, the Army needs your support to follow through with its plan.

Thank you for your attention. I will be happy to take your questions.

[The statement of General Vuono follows:]

STATEMENT BY
GENERAL CARL E. VUONO
CHIEF OF STAFF,
UNITED STATES ARMY
FISCAL YEAR 1991
DEPARTMENT OF THE ARMY
BUDGET OVERVIEW

Mr. Chairman and Members of the Committee:

It is a privilege for me to appear before your committee to report on the state of the United States Army and to explain the Army's priorities for Fiscal Year 1991 and beyond. The Army has developed a prudent plan, consistent with the evolving threat, to fulfill its role in U.S. national security strategy in the years ahead. Today's Army is trained and ready. It must remain trained and ready throughout our transition to the smaller, capable force that our nation will need in the future. Our program is designed to guide us into the 21st Century, while maintaining a force of the highest possible quality. The Fiscal Year 1991 budget is an integral part of our plan.

THE ARMY TODAY

To provide you a reference point as you consider the first budget in this new decade, I want to summarize the extensive transformation that the Army has undergone over the past ten years, and to explain how this has prepared us for the years ahead. I know that little of what I am going to relate to you would have been possible without the assistance of the Congress and the support of the American people. The Army is particularly appreciative of the support it has received from members of this committee.

Ten years ago, the United States Army was undermanned, lacked modern equipment and a sufficient sustaining base, and had limited realistic training opportunities. Enlistment and retention data were disappointing, soldier misconduct was unacceptably high, and our soldiers and their families were sometimes forced to live and work under less than satisfactory conditions.

Together, we succeeded in rebuilding this force into a powerful professional Army whose universally accepted capability brought our foes to the negotiating table and pride in their armed forces back to the American people. Let me share with you briefly the magnitude of the improvements that have produced the highest quality Army in our peacetime history.

The success of our recruiting, retention, and quality of life programs enabled the Army to attract and to retain extremely high quality soldiers and civilians throughout the active and reserve components. This led to a substantial improvement in warfighting capability and operating efficiency In 1980, only 54% of the Army's volunteers were high school graduates, and 52% tested in Category IV (the lowest test category the Army may recruit). Today the Army is recruiting over 90% high school graduates, and the number of new recruits in Category IV is less than 4%.

We also made strides in improving the quality of life of our soldiers and their families, a key factor in retaining these quality soldiers. Since 1980, we modernized and/or expanded 13 hospitals, and we opened 65 medical and dental clinics, 67 child development centers, 19 chapels and

religious education facilities, and 64 physical fitness centers. We built or leased over 24,000 sets of family quarters and added almost 100,000 barracks spaces for our single soldiers. We also instituted the Army Communities of Excellence (ACOE) program to assist in building pride in Army communities, to enhance living and working conditions, and to greatly improve the services we provide our soldiers, civilians, and family members worldwide.

The impact on retention has been significant. Soldiers eligible to reenlist for the first time are doing so at a rate 15% higher than our current objectives. Enlistment rates of mid-career soldiers are up almost 40% since 1981, and career soldier enlistments have increased 14% from an already substantial 101% of the objective. We can all be proud of the advances that we have made in caring for our professional, volunteer force.

We also made significant improvements in force modernization. We put into service the world's first high and all-weather capable attack helicopter, fielding over 600 Apaches. We upgraded the utility helicopter fleet with over 1,000 Black Hawks. We significantly increased our close combat capability, fielding over 6,000 Multiple Launch Rocket Systems (MLRS) in active and reserve component units. Our combat vehicle fleet is unmatched for quality around the world. We replaced a large portion of our aging truck and jeep fleets with modern trucks, trailers and utility vehicles. The reserve components (RC) particularly benefitted from this influx of modern equipment. Indeed, since 1986, the lack of qualified personnel has replaced equipment shortages as the primary RC readiness obstacle.

The Army improved its ability to sustain training and build the stocks required to support war plans. POMCUS stocks have doubled since 1980. Theater reserves of ammunition, spares and major end-items increased appreciably, and the sustainment base was modernized. These advances substantially increased our ability to effectively support the warfighting needs of the CINCs and the peacetime training of our forces.

Quality people with modern equipment, while essential, do not alone yield increased warfighting capability. Tough, realistic training is the key to combat readiness. Since 1980, the readiness of the Army's active divisions has steadily improved. Today all 18 active divisions are combat ready. Reserve component units have shown similar improvements, with our National Guard currently showing a 21% increase in units reporting combat ready status since 1980. The number of USAR units reporting combat ready status has similarly shown a 26% increase over the same period. This significant progress was due in large part to the rigorous training program for both active and reserve components. Reserve component participation in "Overseas Deployment for Training" increased fivefold, and all components participate in training at the Combat Training Centers (CTCs) - the National Training Center in California, the Joint Readiness Training Center in Arkansas, and the Combat Maneuver Training Center in West Germany. These training centers provide our soldiers with the most realistic and demanding training in the world. This training is complemented by the Battle Command Training Program that provides simulated, state of the art warfighting exercises for division and corps commanders and their staffs. These and other leader development programs for soldiers and civilians at all levels have greatly contributed to increased Army effectiveness.

Our warfighting capabilities have also been improved by redesigning our forces to exploit U.S. advantages in new weapons systems and to keep us

aligned with changes in the international environment. Army heavy units have been reconfigured to a more functional design and three new light infantry divisions, the 10th, the 6th, and the 29 (ARNG), were activated without any increase in the active component end strength. Army Special Operations Forces (SOF), over 70% of CINCSOC's forces, also grew in size and quality. In all, given our enormous success in attracting and retaining quality people, and the improvements in force modernization, sustainment, training, and force structure, we increased the combat capability of the Army by some 90% over the past decade. I sincerely appreciate your support throughout this transformation.

While these improvements have taken the full decade, an Army can deteriorate quickly. Rebuilding an effective force takes time and money; it takes constant effort to maintain this force at peak efficiency. Recognizing this, the Army has structured its Fiscal Year 1991 Budget to preserve the essential qualities of its current force as we begin the transition to an uncertain but hopeful future. Over the past decade, the Army has undergone an extensive transformation that has prepared it well for the challenges ahead. I solicit your support in ensuring that precipitous reductions to the defense budget do not result in the wasteful elimination of these hard-won capabilities.

DEMONSTRATED CAPABILITY

Today's Army is trained and ready as never before in our 200 year history. In my view the participation of Army forces in Operation Just Cause demonstrated that this statement is a reality unambiguously proven in battle.

As a number of you have visited Panama since the termination of the fighting, I won't discuss the details of the operation. Let me just highlight a few of the salient points. First, it was very clear early in the planning process that the keys to success would be surprise, speed, and the ability to simultaneously overwhelm multiple key points. If we were to achieve the President's objectives and minimize the loss of life and damage to property on both sides, we had to attack with overwhelming force, eliminate organized pro-Noriega resistance, and seize critical objectives throughout the country -- all at the same time. This required that we conduct simultaneous ground and parachute assaults with forces based both in the United States and forward-deployed in Panama. Operation Just Cause was an exemplary demonstration of the rapid deployment and employment of a contingency force to reinforce a forward-deployed force.

Consider for a moment the magnitude of the challenge. Our CONUS (Continental United States) forces were alerted, prepared and loaded within a matter of a few hours. Then they had to fly over distances of 2000-3000 miles from a number of installations and launch their airborne and ground assaults -- without rest -- in the middle of the night in a strange country. The attack began at about 0100 on 20 December, precisely on schedule. Within 12 hours, our soldiers had liberated an entire nation from a brutal dictatorship. Following the combat operations, many of the same forces spent the next several weeks in stability operations and in assisting the democratic Panamanian government to restore order to the streets, to provide humanitarian assistance, and to rebuild its national infrastructure. These soldiers went from Christmas shopping to combat in less than 60

hours, and from combat operations to nation building support in not much more than that.

It is clear from Just Cause that the services and JCS have made significant strides in planning and executing joint operations. This was one of the most complex military operations that the United States has conducted. It was also one of the most successful in our history. In my view, there is not another military force in the world that could have accomplished Operation Just Cause in the manner that the United States armed forces did.

We must be cautious, however, in drawing proper lessons from this operation. Some have already proclaimed it as the prototype for contingencies of the future. As important as it is, Just Cause represents but one type of contingency in which the United States may find itself. It is a single point along the operational continuum that runs from peacetime competition to a major war. The competence and discipline all units in the joint task force demonstrated in Panama are essential to deterrence and defense in Europe, in Asia, in the Middle East -- anywhere our vital interests may be threatened. Moreover, we must increasingly be prepared to execute these missions without the significant forward-deployed elements that played a key role in our success in Panama.

The people of America have an Army of which they can be justifiably proud. This success did not come easily. It is the result of a decade of hard work, sacrifice, and adequate resources. We should keep that in mind as we begin shaping the Army for the future.

SHAPING THE FORCE FOR THE FUTURE

In the years ahead, the United States will face unprecedented challenges, risks, and opportunities in an increasingly complex, volatile, and unpredictable world. This rapidly changing geopolitical environment will place different and far reaching demands on the U.S. military, particularly on its conventional forces. We must remember that change does not necessarily bring peace and security. In fact, the dissolution of great nations has typically been accompanied by instability and violence. Clearly, the events in the Soviet Union and Eastern Europe are historic and offer significant opportunities to lower the level of superpower confrontation that has occupied the world for the past 40 years. However, the risks associated with assuming too quickly that positive change will continue without temporary setbacks or even reversals are substantial. We must carefully and realistically assess the dramatic political developments in the Warsaw Pact and elsewhere.

The Threat

The challenge for the Army in this era of change will be to prepare for the future without losing sight of both the present opportunities and the inherent, yet uncertain risks of evolving security challenges around the world. For the near-term, Soviet and Soviet-supported military action in Europe and Asia will remain a demanding near-term challenge for the United States and its allies. Therefore, deterrence and regional stability will continue to require forward-deployed U.S. forces. At the same time, new conflicts in the developing world and more sophisticated versions of existing

threats to our security are likely to arise. As the underlying causes of these conflicts exist within the developing nations themselves, they will not necessarily diminish even if Soviet international behavior continues to moderate.

The expansion of military power in the developing world will present new challenges to the United States. Libya, for example, has more main battle tanks than France or the United Kingdom, and several countries -- Sryia, India, North Korea and Iraq -- have more main battle tanks than France and the United Kingdom combined. Indeed, as more developing countries gain significant military capabilities, they may resort more readily to force in settling local security interests. Moreover, the precise time, location, and gravity of these occurrences are largely unpredictable.

International drug trafficking, terrorism, insurgency, and subversion of legitimate democratic regimes will also continue to pose serious threats to U.S. interests. These low intensity conflicts can undermine important allies and other friendly nations, impede the development of democratic institutions, and hamper essential U.S. economic and military ties. The dangers of low intensity conflict, and particularly of terrorism, are magnified by the increasing worldwide availability of sophisticated explosives and weapons. Precision-guided munitions are becoming available available through illegal arms markets and from states supporting international terrorist organizations. Terrorist use of the ultimate weapons of mass destruction -- chemical, biological, and nuclear arms -- is not inconceivable. Clearly, low intensity conflict is the security challenge most likely to demand a short-notice U.S. military response in the future.

- The Army's Role in National Security Strategy

Given this evolving threat, the basic elements of U.S. post-World War II strategy will likely to continue to guide the United States for some time. Because of its geographic and political position in the world, the United States will continue to rely on a coalition strategy, working in cooperation with allies and other friendly nations to protect mutual interests. Consequently, forward deployment of combat ready ground forces in places where U.S. interests require them will remain a key mission for the Army. The scope of this mission, however, may be reduced in the near future as a result of improved security and new arms control agreements. We must ensure, in the meantime, that deterrence, stability, and ongoing arms control negotiations are not undermined by premature or excessive reductions of forces or capabilities.

Other enduring Army roles will be those of maintaining contingency and reinforcing forces in CONUS. The contingency forces must have a full range of military capabilities. They furnish our nation with flexible options needed to fashion appropriate responses to multiple and varied challenges to U.S. security interests in trouble spots around the world. Forces in CONUS must also remain ready to reinforce forward-deployed and previously committed contingency forces rapidly, backing them, if required, by the full mobilization of the military and industrial potential of the United States.

Support to our allies and other friends around the world, in the form of peacekeeping operations, security assistance, and nation-building activities, has been another historical Army role. Recently, this mission has

acquired new meaning in view of the challenges to, and opportunities for, democracy in the developing world. The Army has also continued to support civil authorities, including disaster relief and emergency assistance; and it has received new missions in the war on drugs.

Considering this array of challenges, the world of the future will not be any simpler nor necessarily any safer than it is today. Indeed, as we move into the 1990s, we will live in a security environment that is demanding, diverse and dangerous. These challenges will become even more difficult as they will have to be met in an era of scarce defense resources.

- The Army's Plan

Some of the recent trends in the international environment have been apparent for some time, others have materialized unexpectedly. In 1988 the Army refocused its planning processes to gain the initiative in adapting to the evolving global security situation by developing a strategic concept for the Army of the future. This concept attempted to minimize the risk to key national interests and to maintain flexible options for the nation in responding to changes in threats and challenges to national interests. It has provided the framework within which the Army has continued to evaluate the impact of strategic, threat, and resource developments on its programs. When faced with the fact of sustained real resource reductions, at least through the mid-term, the Army effectively used this framework in the difficult process of posturing itself for a diverse and uncertain future.

In evaluating the potential for a significantly reduced Soviet threat over the mid-term and declining resources over the same period, three conclusions became clear to us:

-- first, the Army could not at the same time man, train, and equip its current total Army structure of five corps, 28 divisions, and the related support infrastructure, while maintaining the indispensable quality and readiness of the force;

-- second, to reshape the force to counter the rapidly changing threat in a climate of declining resources, while maintaining a full range of capabilities in support of the national military strategy would require a clear vision of the mid-term force (size and capabilities) and a disciplined adherence to valid priorities;

-- and third, that during any reshaping of the force, the Army had to retain the capability to expand the force if the international situation changed radically.

The Army developed the mid-term force objectives based on historical analysis of previous large Army restructurings, a careful assessment of the evolving threat, and a view toward the capabilities that the Army would require in 1995. Past examples of chaotic demobilizations following World War II, Korea, and Vietnam indicated that the capabilities of the force declined markedly when the Army eliminated large number of soldiers from its ranks. We found to the detriment of our nation that, as a result of these lost capabilities, Army forces suffered substantial and avoidable losses when committed to unanticipated combat after a rapid demobilization. We were also very aware that the requirement to build down and restructure today's professional, volunteer force would differ significantly from these past demobilizations of largely conscript armies.

Threat analyses indicated that while there was cause for cautious optimism with regard to the future direction of the Soviet and Warsaw Pact threats, other threats were becoming more likely and increasingly sophisticated. Finally, an analysis of the capabilities the Army would likely need to fulfill its strategic roles in 1995 concluded that, while its fundamental roles would not change over the mid-term, there was potential for change in the way these roles might have to be exercised. For example, given the continuation of the positive developments in the Soviet Union and Eastern Europe and the implementation of a CFE agreement, it will be possible to reduce forward-deployed forces. Further, increased warning time that may result from reductions in Soviet forces West of the Urals can lead to changes in reinforcement criteria for CONUS-based forces. Our analysis concluded that turmoil in the developing world would likely lead to an increased role for the Army in contingency operations and in civil support operations -- disaster relief, interdiction of illicit drugs, security assistance, nation building assistance and other support to civil authorities.

We concluded that the Army of 1995 must be a smaller, but highly capable force; forward-deployed in sufficient strength to provide a credible deterrent and to demonstrate unambiguous U.S. commitment and resolve to its allies; globally oriented; and clearly able to execute worldwide contingency operations. It must have an appropriate mix of forces, be adequately modernized and fully trained, and be ready to respond on short-notice to challenges across the operational continuum. Achieving this objective within existing resource constraints necessitated that we reduce the size of the force and accept some risk in equipping the force to protect the quality and readiness which are essential for today's and tomorrow's Army.

The Army's current plan envisions the force of the mid-1990s to be structured with four corps of 23 divisions. This structure, along with the force structures of the other services, will be reviewed by OSD and JCS during the FY 92-97 Summer program review. (We are also participating in the Total Force Policy study group to ensure we maintain the most combat effective, affordable total force mix for the future.) Attaining our desire posture while maintaining the quality of the force will require:

-- reducing the active force structure and overseas deployments (given appropriate international agreements);

-- refocusing all available RC resources to improve their quality and readiness;

-- placing greater emphasis on the contingency capabilities of the U.S.-based force;

-- and focusing our modernization efforts to accept some near-term risk while continuing the research and development essential for the future.

To succeed in the evolving international environment, we concluded that the future force would have to be focused on three fundamental qualities. Tomorrow's Army must be versatile, deployable, and lethal.

- A Versatile Force

The Army must be able to counter a wide array of potential and unpredictable threats with a relatively small force. We cannot afford to maintain forces uniquely specialized for every conceivable geographic area and type of combat. Therefore, a highly capable, versatile Army will be the

most effective solution to worldwide requirements for ground forces. The ability to tailor force packages for specific missions without delays for retraining or mobilization will be crucial. Versatility will require the right proportions of active and reserve components, the correct mix of forces (light, heavy, and special operations), adequate stocks, and, above all, high quality in all aspects of the force.

Versatility also demands intensive training and frequent exercises. Training programs and worldwide deployment exercises will have to demonstrate the ability to tailor force elements, to deploy them within anticipated contingency warning times, and to employ and sustain them as necessary to assure success. The Army must therefore maintain, and possibly expand, today's active force capabilities dedicated to immediate contingency response. The U.S. Army Reserve (USAR) and Army National Guard (ARNG) must continue to maintain ready and rapidly mobilizable combat and support units.

As we get smaller in numbers, the quality of our people -- soldiers and civilians -- more than any other characteristic, will determine the versatility of the Army. With a volunteer force in a competitive labor market, the Army must continue to provide adequate incentives to attract and retain the highest caliber men and women. This means that we will have to provide not only adequate compensation, but also a living and working environment that meets the standards of American society.

- A Deployable Force

The nature of the U.S. interests around the world and its coalition-based strategy will require that U.S. forces be globally deployable, often with little or no warning, from the United States or from forward bases. Current trends in the international security environment make it abundantly clear that rapid deployment will become even more important in the future.

Forward-deployed ground forces will continue to be essential although their specific numbers will change to reflect contemporary circumstances. The locations of Army bases abroad, moreover, will likely be limited to those areas where deterrence and regional stability cannot otherwise be assured.

In the future, the United States will also have to maintain an unquestionable ability to conduct an opposed entry into combat in defense of vital interests anywhere. In many contingencies, a forced entry will only be possible, or will best be achieved, by simultaneous airborne assault on multiple targets. Army airborne and Ranger forces have unique capabilities for performing this function. They will remain key elements in the Army of the future.

Even the most deployable and combat-ready land force, however, cannot be employed without adequate strategic lift. The United States cannot afford to risk the effectiveness and credibility of its overall defense strategy by failing to develop and field adequate worldwide lift assets. Airlift and sealift assets currently available or approved for acquisition are inadequate. This deficiency will have to be addressed in the years ahead. Of particular importance will be the further development of sufficient sealift capabilities to support contingency requirements, and the rapid acquisition

of a transport aircraft with strategic range and undeveloped landing strip capability.

- **A Lethal Force**

Lethality is the assured capability to defeat an opponent, winning as quickly as possible to preserve America's most valued asset -- the lives of its soldiers. Assuring the lethality of Army forces will demand a disciplined, continuous modernization effort. This will mean maintaining the capability to counter the heavy armored forces of the Soviet Union and an increasing number of potential adversaries, while at the same time fielding capabilities that can defeat other threats around the world.

For the 1990s and beyond, Army modernization must capitalize on U.S. advantages and strengths -- particularly the qualities of its soldiers, leaders, and technology -- and exploit vulnerabilities and weaknesses in potential adversaries. Future budgets will be tight, so the Army must assign appropriate priorities and levels of effort to all aspects of its modernization if it is to field a competitive force in the future.

The Army believes it can best use the resources it is given by investing in its technology base to identify promising new technologies, while avoiding mortgaging its future for useful but noncritical near-term capabilities. The Army may, therefore, need to forego some near- and mid-term modernization options while it protects these long-term modernization efforts. The greatest challenge in this area lies in selecting those key technologies that have the greatest potential to increase warfighting capability for each dollar spent. This strategy will permit the Army of the 1990s to reflect significant increases in battlefield effectiveness as a result of the application of advanced technologies. I cite as examples of this strategy our decisions to terminate AHIP, Apache and Abrams production, and to focus our limited resources on the development of the next generation of helicopter and armored systems.

The lethality of the Army of the future will be determined above all else, by the actual combat readiness of the force. Training will continue to be the cornerstone of Army readiness. Combat Training Centers will remain the key to developing the maximum lethality of Army units. These centers not only hone combat skills, they also enable us to assess the validity of the Army's combat doctrine and to develop our officer and noncommissioned officer leaders. The Army will continue to provide tough, realistic training to the highest standards so that its soldiers, units, and leaders have the best possible chance of accomplishing their missions and minimizing casualties should they be committed to combat.

- **The Imperatives**

While our determination of the characteristics essential for the future force provided direction to guide some near-term programmatic decisions, the requirement to maintain a full range of capabilities as the Army reshaped itself necessitated difficult decisions and trade-offs in projecting resource allocations to support readiness, sustainment, modernization, and force structure. We are guided in these decisions by adherence to six fundamental imperatives that have shaped the development of today's

Army, were validated most recently by the Panamanian operation, and that we believe must continue to guide the Army in the future.

The first of these imperatives, and the most important, can be summed up in a single word -- quality. It is this characteristic that enables the Army to fulfill its worldwide strategic roles in spite of its relatively small size. The high quality of the American soldier -- a combination of intelligence, initiative, combat skill, tenacity, and physical toughness -- has been a traditional source of victory in battle. The experiences of recent years have reaffirmed that quality produces the versatility needed to respond rapidly to unforeseen situations. Therefore, recruiting and retaining talented soldiers and civilians -- the best the nation has to offer -- must continue to be the top priority in the Army of the 1990s and beyond. Let me share with you an example of why this quality is so important.

One soldier from a Ranger battalion, after flying in a cramped C-130 for six hours, after a night combat jump, and after fighting to clear numerous buildings, burst into a room crowded with what appeared to be Panamanian Defense Force (PDF) soldiers. Even after all he had been through, even in the heat of battle, this soldier instantly assessed the situation and did not fire a shot. The room was filled with unarmed PDF trainees. Many lives were saved because of the quality and discipline of that American soldier. With disciplined men and women of this quality, there is virtually no mission today's armed forces cannot accomplish.

The second imperative focuses on maintaining a forward-looking warfighting doctrine. AirLand Battle, the Army's contemporary doctrine, provides the basic rationale for developing leaders, designing forces, determining materiel needs, and conducting training. This doctrine recognizes the need to integrate the capabilities of U.S. Army units with those of the other services and of its allies to achieve maximum combat power and effectiveness. The AirLand Battle-Future concept is currently being developed to portray how the Army will conduct operations to meet its worldwide commitments 15 years hence. It will establish the foundation for the Army's disciplined evolution to the future, ensuring the Army's preparedness for future battlefield challenges.

The third imperative is to maintain the appropriate mix of light, heavy, and special operations forces in the active and reserve components. While the present force structure does not simultaneously meet the current needs of all U.S. commands worldwide, the Army can meet the highest priority U.S. strategic requirements. This will continue to be true in the future. We will maintain in our force the capabilities to respond to a wide array of contingencies, conflicts and crises that are by their nature full of uncertainties.

In the conduct of tough, realistic training -- the fourth imperative -- the U.S. Army has set a standard for armies everywhere. The investment that the Army has made in training over the past decade has produced the readiness for war that is the basis for credible deterrence and capable defense. The exercises conducted at the CTCs in California, Arkansas, and Germany, as well as recent operations around the world including Just Cause, stand as evidence of the Army's training achievements. Tough, meaningful, and fulfilling training is also a key element in encouraging the very best soldiers to stay in the ranks. Demanding training, accomplished to high standards, is a sound investment in the Army of tomorrow.

I have discussed the dramatic improvement in modernization over the past decade, particularly in the combat equipment of Army forces. The fifth imperative is to continue to modernize the Army's warfighting capability. The Abrams tank, the Bradley fighting vehicle, and the Apache helicopter are three examples of weapon systems fielded in the 1980s that have served this end. They, and other systems like them, are the products of a continuous process that reflects the Army's strategy, doctrine, technological advantages, and overarching commitment to providing its soldiers the best equipment possible. To develop needed future capabilities on time, the Army will continue to emphasize aggressive research and development in the key areas of operational concepts, unit designs, materiel, and training innovations.

An excellent example of the success of high-leverage advanced technologies is provided by Just Cause. Capitalizing on our investment in night vision capabilities, we were able to conduct very extensive night operations. Beginning with simultaneous surprise airborne and ground assaults, the Joint Task Force immediately followed up with successive air assaults and ground follow-on operations -- all before dawn -- that rendered the pro-Noriega forces ineffective in the targeted areas. It is no overstatement to say that our armed forces own the night, giving our soldiers a tremendous technological edge on the future battlefields of the world.

In the final analysis, the capabilities of the Army depend not only on the quality of its soldiers and civilians, but also on the competence of its leaders. Thus, the sixth imperative is to continue to develop our leaders and to retain them in the Army. There have been many recent initiatives in this area, to include enhancements in formal education and training, successive operational experiences, and continuous self-development opportunities. Current Army programs are designed to prepare leaders from corporals to generals and members of the Senior Executive Service for the future challenges they may face. The noncommissioned officer education system (NCOES) has been particularly successful in upgrading the tactical and technical competence of our first line leaders. Leader development yields the most important and lasting contribution we can make to shaping the Army of the future. It is also a continuous, long-term process. Missed developmental opportunities for junior officers and noncommissioned officers are extremely difficult to recapture later in their careers.

Past adherence to these six imperatives has positioned today's trained and ready Army to address the challenges of tomorrow. The Army of the 1990s and beyond will continue to be an Army that is shaped by reliance on these proven imperatives.

This vision of the future and these priorities have guided the Army through the preparation of the Fiscal Year 1991 budget and its mid-term plans. The Fiscal Year 1991 budget represents the first step in a transition from a Cold War posture primarily oriented on the Soviet threat to a versatile posture for the 1990s and beyond with a more diverse threat orientation. This change in focus, coupled with recent and projected budget reductions, has forced the Army to make some extremely difficult decisions to best serve the immediate security needs of the nation while preparing for a disparate and uncertain future. It should be clear that decisions reflected in this Budget were based on the Army's plans to shape itself into a smaller, versatile, highly trained and ready fighting force that will remain capable of

meeting the requirements of the National Military Strategy in the 1990s and beyond. The Fiscal Year 1991 budget should, therefore, be viewed with the future in mind.

CONCLUDING STATEMENT

In closing, I want to emphasize that we are not demobilizing a draftee Army called up to serve our country in crisis. We are reshaping a professional, volunteer force whose soldiers and civilians have served their country freely and proudly. Moreover, this reshaping is taking place in a period of extraordinary turmoil and instability in the international environment.

We must not forget that the United States has worldwide responsibilities. The Army must, therefore, ensure it is trained and ready to respond to unforeseeable crises, or to a reversal of the positive trends in Europe, that may arise during this difficult period. We understand the demands of national security and the kind of Army our nation needs; we have a firm foundation upon which to build; and we have a comprehensive plan by which we are guiding ourselves into the 21st Century.

At the same time, resource constraints demanded that we make tough decisions that, frankly, entail some near-term risks. We decided to reduce structure and forego some modernization programs that would have added to our overall warfighting capabilities. In my judgement, accepting these near-term risks is necessary in order to devote all our available resources to ensuring the quality and readiness of the force during the transition period as well as the research and development programs that are essential for the future.

We will need your support to obtain the needed resources. We will also need your support for additional legislation to ensure we take care of our soldiers and civilians who will be leaving the force as we reduce its size.

The Fiscal Year 1991 Budget we submitted provides for the first year of the plan that will achieve a disciplined and comprehensive restructuring of the Army. Downward adjustments to either the Budget or the plan would entail either degradation of near-term quality and readiness -- adding to the risks we have already taken -- or foregoing capabilities we deem essential for the future, or both. We ask for your help to avoid these unfavorable outcomes. We are committed to providing you any additional information you may consider necessary to understand not only the overall plan, but also the way in which that plan is reflected in this Budget. We need your understanding of both.

Mr. Chairman, thank you for your time today and for your previous support of the Army. I will be happy to take your questions.

PANAMA

Mr. MURTHA. Mr. Secretary and General Vuono, this is a historic day. We have the first Eastern Bloc President ever to address a joint meeting of the United States Congress and I think we can say we had something to do about it.

My experience in Panama is we had the finest armed services we have ever had. A great deal of the credit for that goes to you two gentlemen sitting here. General Vuono, I heard so many compliments about you and your concern for the individual serviceman and I know you are carrying that on by what you are saying today. I know Secretary Stone has the same concern for the individual service person; he wants to make sure that they are ready to go.

I was down in Panama just after you, one 82nd Airborne fellow said to me, "My last day of training was my first day of combat."

I went down to the Wilford Hall Hospital at Kelly Air Force Base down in Texas. One fellow had lost the use of his legs; he is paralyzed from his waist down. There were only two left in the hospital. One was a Navy Seal and the other an 82nd Airborne soldier who lost his leg.

They knew they had gone to Panama to liberate the people who had voted against Noriega and to install democracy. They were proud of what they had done. The young men understood exactly what they had done and had been instilled with tremendous pride by the Army. So there is no question that you have done an outstanding job, and we are proud to be part of it because this subcommittee had as much to do with directing the services with our fiscal policy as I think any committee in the Congress.

So we are proud of our part in it and proud to be associated with two great Americans and, General, we want to compliment the Army for the tremendous job they did in Panama.

TANK PRODUCTION

Mr. MURTHA. Mr. McDade?

Mr. MCDADE. Thank you very much, Mr. Chairman.

I want to echo the Chairman's comments and congratulate all of you for the tremendous job that you have done, exemplified by the Chairman's very cogent and well-deserved remarks about the performance of the troops in Panama.

I want to congratulate you for the testimony that you are presenting today demonstrating this forward look about how you tried to deal with what was a constrained budget environment.

As I listened to the testimony and heard your comments about how you intend to accomplish it, I am impressed by the degree of effort that you put into planning how to get through these wickets.

General, when you said we are going to shape the force for the 21st century, it hit me and I thought of the decisions that we will make jointly.

We have had a wonderful working relationship through the years and have tried to make decisions together that reflect a consensus opinion about how to deal with this problem.

The decisions will be huge. Congratulations to all of you for the job that you are doing in trying to plan for a changed world, a changed fiscal environment, and looking at what we need to do to

present a plan that keeps the Army where it is today, at the highest level of proficiency probably in its history. So congratulations to all of you.

We have had conversations back and forth about the tank line.

One of the bullets you bit was to say, "Well, for the first time in the history of the Nation, we are going to be without a producing tank line for a given period of time." The date is kind of a fleeting target.

Now, I hear close down in 1993; with the original plan to start again at low rate of production against the new threat about 1995 or somewhere in there. Now it has slipped again, I am told, to 1998.

Mr. Secretary, what are your most current dates on what happens with that line? When do you see it closing and when do you see it reopening?

Secretary STONE. If I could take a first crack at that.

First of all, you have started off with a matter that is of great concern to the Army. I don't know how far back there has been an occasion when we have not had a plant producing armored vehicles and tanks for the Army. Closing its tank plant is going to be a very difficult decision for the Army to confront.

I was at Lima, Ohio, just last week; a week ago tomorow and I have been to the Warren Plant in Michigan. I think I ought to say that when we are talking about tank production, we are talking about two separate facilities, separated by 100 miles, but very closely linked, sir. The Warren, Michigan, plant can't produce a tank without having production from Lima, Ohio, and Lima cannot produce a tank without having some of the work done on that tank at Warren, Michigan. So the two plants are linked.

Mr. MCDADE. I don't want to interrupt, but I want to push you back and ask you one question that doesn't get a lot of examination, and that is the question of why you decided to interrupt the line.

As you looked at the quality of the tank you are producing and the threat you have to face, at this point in the record just for purposes of sequencing the questioning, would you be kind enough to tell us what rationale do you have that enables you to say, well, we can take a risk of not having that line for awhile?

Secretary STONE. I think there are two answers: the threat and the technology risks. They are linked.

Let me talk first about the threat. The threat in Russia is a tank known as the T-80 and we feel that the United States has the capability to deal with that threat. That is going to be the principal threat through the early part of the 1990s.

There are other tanks being fielded, we think, by the Soviet Union. If the Soviets stick to their present production schedule of 1,800 tanks per year--it is probably unlikely that they will keep that rate of production, but even if they do—we think we have the capability to deal with that threat in the near term.

The threat that the Soviets have on their drawing board right now is what we term the future Soviet tank No. 3, FST-3, this is a revolutionary tank which will be characterized by a 130-mm gun capable of anti-tank guided missile firing among other improvements. It is that threat that we think represents the turn of the

century threat that leads us to the second part of my answer to your question.

Both threat and funding considerations lead us to believe that we should accept some increase in the short and medium-term risk, while at the same time making sure that the United States has the ability to confront the technological threat that may materialize at the turn of the century.

So it is those factors and that analysis that has led us to accept the risk of curtailing production of United States tanks in the 1992-93 period.

I will answer the date question you also asked. Closing that six-seven year period between 1992 and 1997, 1998-1999.

Mr. McDADE. If you indicate for the record when it appears that there will be a closure in the initial low rate of return to production, what do those dates look like?

Secretary STONE. The 1991 fiscal year budget includes funding for approximately 225 tanks. That represents a substantial lowering of production from where we are today, primarily because the marines have canceled also in their fiscal year 1991 budget their anticipated procurement, which would have taken us up close to the 600-tank mark, about 300 at each plant.

When that curtailment happened, we went down to a lower funding level and that is what we have proposed for fiscal year 1991; that will be the one year contract. The present multi-year contract will have expired by then.

In 1991, we will produce the last of the M1A1, that is the current version tank and also prove out what we call the Block II tank which will have some improvements over the M1A1 and will be designated the M1A2. We will produce 62 of those new tanks, enough to know that we have the capability of reversing our plans if the threat materializes in the near term and go back and produce a proven tank.

This is where the story becomes more complicated because you have asked me to say when will the actual closures occur. It is difficult to be precise because of the two-plant relationship. You have to keep Lima going until the last tank is finished because that is where the turrets are produced and where some classified production is done.

There are also presently 36 machining operations carried on in Detroit that are essential for completing tanks. There are three ways of solving the problem. You can continue to do this in Detroit or source it out with other firms. Or else you can produce it in another General Dynamics plant.

Finally, and without making a long story out of it because it is a complicated decision, presently we would think that U.S.-produced tanks will be finished at the Warren plant at the end of 1991 and Lima sometime in 1993.

Mr. McDADE. Calendar 1990 or fiscal year?

Secretary STONE. Those are calendar years. The last factor which I haven't said anything about is what happens with foreign military sales.

At the present time we have a firm Egyptian sale which requires that the United States deliver either completed tanks or packages and kits for reassembly in Egypt through 1996, at the rate of about

eight per month. This does not represent an economical utilization of either plant, but that is where it will have to be done unless the United States modifies the contract. And the question is, where do we get the parts?

Mr. McDade. That FMS with Egypt was premised on an up-and-going line?

Secretary Stone. Premised on the packages being produced at a facility in the United States which was presumably going to be one of those two plants. You would certainly have to conduct that operation at certain places, whether or not it was at the plant, and the most logical place to do it is where the work is produced today, yes.

Mr. McDade. But the pricing structure and everything else was interwoven, wasn't it?

Secretary Stone. There is a danger that unless there is other production at the plants, there will be an escalation in the cost of those tanks for Egypt.

Mr. McDade. The Egyptian buy is premised on eight a month?

Secretary Stone. Eight a month until 1996. One way to solve that is to produce them all in about six months. The present plan is to produce 8 tanks per month, so you could do it all in two years. There is a cash-flow consequence of doing that.

Mr. McDade. There are conversations about the Saudis, the British, the Pakistanis; there is a flock of them that you hear about.

Secretary Stone. I am having lunch with some people from Saudi Arabia and I think the prospects there are pretty good. The Congress has supported that sale and the contract is being negotiated, and there is a possibility that the contract could be increased. Presently it is 300 plus; it could be a larger number.

I think that the British sale is both difficult to predict and unlikely, but there is a chance that with their reconsideration of their defense budget—and they are going through some of the same problems that we are—their quantities may come down to the point where it would not be economical to produce a new tank in the U.K., in which case that prospect might be a better one for the United States. So that is still alive.

Mr. McDade. I have used a lot of time and we will come back to the issue.

General?

General Vuono. I said before to the committee that I wanted a Block II tank and a future tank. The threat has changed. The Soviets are not producing the FST-2 as fast.

We were cut a lot of money so our strategy was to accept some near-term risk and then go for the long term in the armored systems modernization program. If you said to me, would you like to keep the tank line open, the answer is, certainly we would, but I cannot afford it out of the Army budget.

Mr. McDade. I hear you loud and clear. You have always been very frank with the committee and we appreciate that.

Thank you, Mr. Chairman.

Mr. Murtha. Mr. Dicks.

Mr. Dicks. You are saying if we keep the tanks operating something else has to go, some of the quality, some of the training?

General Vuono. Yes.

Mr. Dicks. In other words, there is no way to have it both ways?

General VUONO. No. We looked at that very, very closely when we made the recommendation in our budget.

Mr. DICKS. Did you make the recommendation?

General VUONO. It was an Army decision on the merits because to keep the tank line open, we would have had to decimate other modernization programs and we would have had to take money elsewhere.

Mr. DICKS. The Soviets are going to take out 31,000 tanks in the CFE agreement. I am sure they are still producing tanks, probably more than we are.

General VUONO. They are. That was the consideration in terms of near-term versus the future.

Mr. DICKS. I was in Panama with the Majority Leader. Some people thought that was the reason Noriega left the country when he heard that there were 28 Congressmen coming the next day. He just couldn't stand the heat.

One thing I will say is that General Thurman did say that he was in charge of picking the music, that you didn't have anything to do with it and I am glad to hear that.

General VUONO. I am too.

C-17 AIRCRAFT

Mr. DICKS. Obviously that was a very impressive operation. The Army is to be commended. I feel very proud of the fact that whether it was through benefit programs like Nunn-Warner that helped us deal with some of the retention problems in the late 1970s, early 1980s, the Army today is clearly a better Army with better education and fewer category 4's. We saw that in Panama.

If we can focus on a couple of issues. I think one of the areas that bothered me about the operation was the airlift question. One of the major disputes in the Congress is going to be whether we buy the C-17 or not. Some of those kids were in those planes 10-11 hours in parachutes. It seems to me airlift has to be something the Army has to take into consideration.

How do you feel about the C-17?

General VUONO. When we describe the Army characteristics of the 1990s and beyond, we describe an Army that is versatile, lethal and deployable. If you reduce your forward deployed commitments, which we are going to do as a result of CFE and other things, then you have to have the means to deploy the Army from the United States to a trouble spot either in a crisis or pre-crisis environment. That means you need sealift and airlift. I am the strongest supporter that we have for the C-17 aircraft because that gives us the strategic and tactical capability that is absolutely essential for us as we move into the 1990s.

Mr. DICKS. On the deferral list we basically supported C-17. We also put in money last year, $640 million, to add something for sealift. Can we neglect sealift? Doesn't 90 percent of the lift go by sea?

General VUONO. In my view there is a need for a complete review of our sealift, our maritime sealift policy. We do need sealift. You could make an argument over how much fast sealift you need now as the warning time increases in Europe, and that is

true, but I would also say that some elements of sealift and fast sealift are going to be essential if you are going to move a force in other than NATO contingencies.

Mr. DICKS. Is this the Transportation Command? Is this where we go to talk about this?

General VUONO. The Transportation Command has that responsibility but the Army is the biggest customer they have, and so the Army supports deployment options that give us sealift and airlift.

BASE CLOSURES

Mr. DICKS. One of the major problems up here on the Hill involves the decision the Army made on base closures. I believe it was a meritorious decision.

Was there any political pressure put upon you, any guidance from Secretary Cheney to put bases in Democratic districts on the candidates list?

Secretary STONE. I can give you a categorical denial on that. Absolutely no guidance given whatsoever.

Mr. DICKS. Did the Army take politics into consideration when it made these decisions?

General VUONO. The Army looked at capabilities.

Mr. DICKS. We have your word on this.

General VUONO. Absolutely.

Mr. DICKS. Were any changes in your recommendations made by anybody in higher authority once you made them?

Secretary STONE. General Vuono said that the proposals that have been incorporated in our budget were presented and developed by the Army. We developed them. There was no guidance of the nature that you are talking about to us nor was there after we submitted——

Mr. DICKS. Was your plan adopted in whole, were there any changes in your plan on base closures?

General VUONO. No. There were no changes at all in the recommendations we made.

Mr. DICKS. The reason I bring this up is this has become a major issue up here and I am trying to give each service a chance to tell us whether in fact there was political pressure.

Secretary STONE. Absolutely none.

FORT LEWIS, WASHINGTON

Mr. DICKS. We lost 3,000 people at Fort Lewis a couple of years ago. In that situation there was political influence because the Army made a recommendation that the cut be in the Sixth Division, and that was overturned by Secretary Taft—and I know that for a fact because the people told me.

Secretary Stone, you are new. I am glad to see that this did not happen in this particular case, and I would recommend that you ought to think very carefully about these kinds of things because there is enormous sensitivity up here. It has enormous impact on people's districts, and if it is made on the merits, people can accept it, but if there is political decision involved, you are going to get the Army in trouble.

At Fort Lewis, we will lose 2,903 people this year, 3,100 next year. I would hope that the Army would stay committed to the entire plan.

We believe that we have a very good training facility at Fort Lewis and that the Seventh Division ought to be moved there.

Can you explain on the record here why you made the decision that, one, the Ninth should be shut down or at least two brigades of the Ninth, and why you feel that moving the Seventh up to Fort Ord makes sense?

General VUONO. Well, the downsizing of the 9th Infantry Division to a motorized regiment, which we have done, was based on a number of factors. One, we looked at the strategic environment. We started with that. It was a late-deploying division to Europe. It wasn't part of the M + 10 package. We felt with a reduced threat, we could take a reasonable risk, because we had other units that we could substitute for those in the later deploying package.

It was a division that had not been modernized as yet because we had it as a motorized division and did not have the systems to modernize it. We thought we could capture a lot of experience and give us a capability as part of a tailored corps package. As we look at a system we could put in there, a lighter gun system, we would have the capability with a regiment that we could deploy from Fort Lewis.

The recommendation to move the 7th Division from Fort Ord to Fort Lewis was based on strategic considerations. We felt that Fort Lewis had some capabilities from the standpoint of deployment for the light division which are very good.

Mr. DICKS. Is that the proximity to the Air Force base next door?

General VUONO. Yes. There is a benefit from an OPSEC standpoint where you are moving troops only on an installation as opposed to moving into other areas.

We have fairly good training areas at Fort Lewis and the very good quality-of-life package at Fort Lewis. We have invested, I think wisely, in the facilities at Fort Lewis and that had a tremendous impact.

Mr. DICKS. Isn't the housing allowance at Fort Ord very high?

Secretary STONE. I was going to bring that up myself if Carl had not, so let me answer that, Congressman.

One of the things that we are trying very hard to do in the Army budget that we are presenting now, the 1991 budget which we have and the 1992 budget which we will be starting on shortly, is to look at operating on overhead costs as closely as we can, and those figured into the decision regarding the 7th Division.

As an example, the variable housing allowance ratio for an E–1 with a family between Fort Ord and Fort Lewis is about fifteen to one. In other words, for every dollar that we spend on housing allowance at Fort Lewis, we would have to spend fifteen in the Bay Area. The cost of services is higher. This means the people that we will hire to man the child-care centers, and continuing through the whole of the support structure, tend to be higher in the high-cost Monterey area.

There is a training aspect as well. We presently have to conduct most of Fort Ord's exercises, not all, at posts in California which are remote from Fort Ord; either at Camp Roberts or Hunter Lig-

gett. It takes time, money, fuel, and wear and tear on trucks to transport soldiers to those exercise areas. Most of those exercises can be conducted at Fort Lewis. We can't live fire at Fort Ord. It is this type of expense——

Mr. MURTHA. Expand that for the record.

[The information follows:]

Additionally, the move to Ft. Lewis aligns the division with a Corps headquarters, motorized brigade, and Special Operations Forces allowing the division to interact with units it deploys with for some contingency missions.

Quality of Life facilities. Ft. Lewis provides superior facilities for the soldiers and their families. Madigan Army Medical Center is on post as opposed to having to travel to Presidio of San Francisco for specialized care. Cost of living at Ft. Lewis is significantly cheaper than the high rents required at Monterey, CA, (average monthly Variable Housing Allowance for Tacoma, WA, is currently $41.34 compared to $315.55 for Monterey). Three new day care centers have also just recently been opened at Ft. Lewis.

In summary, closing of Ft. Ord saves approximately $683 million in the Program Objective Memorandum years, and limited training facilities do not offer optimum expansibility to the Army in the Post-Conventional Forces Europe era.

The planned execution in downsizing the 9th ID (MTZ) (approximately 11,900 spaces) to motorized brigade (approximately 3,900 spaces) and restationing the 7th ID (L) (approximately 11,000 spaces) from Ft. CA, to Ft. Lewis, WA, is as follows:

9th ID (MTZ):

FY90: Approximately 2,900 spaces eliminated

FY91: Approximately 3,100 spaces eliminated

FY92: Approximately 2,000 spaces eliminated

Restationing the 7th ID (L):

FY92: Approximately 3,500 spaces and equipment transferred

FY93: Approximately 7,500 spaces and equipment transferred

Specific contingencies have not yet been identified if the above plans are not implemented. Not cutting spaces from the 9th ID (MTZ), a late deployer to NATO and not modernized, would result in cutting spaces from more capable reinforcing and contingency divisions. Current plans are to cut approximately 8,000 spaces of the 9th ID (MTZ) an organization of approximately 11,900 spaces, to meet the required force structure cut of 36,500 in FY 90/91. The remaining spaces of approximately 3,900 will be utilized to structure a motorized brigade.

Bottom line, if the above plans were not implemented, the Army would cut readier force structure and reallocate funds from other programs to maintain these organizations and installations. This would impact on readiness of the forces and quality of life for all soldiers and military families.

Mr. DICKS. This is very important to me. I have been a good soldier and I have lost every time.

What about the process here? What has to happen? You are going to start an environmental impact process. Tell us about that, because this is crucial to implementing this plan of yours.

Why do you have to do that? Why is it two years before we move the Seventh Division to Ft. Lewis?

Secretary STONE. It could conceivably be less than that. I think we are looking at 12 to 18 months for preparation of an environmental impact statement, and we are ready to start that right away.

Mr. DICKS. Are you going to start it?

Secretary STONE. Yes. And we will conclude it as rapidly as we can.

The only problem that I am aware of is that we could get legal action taken against that environmental impact statement when the results are known. We have to have public hearings on it, so you could theoretically get a suit filed against it. That is the principal problem.

General VUONO. Could I make a comment that is broader than just Fort Ord or Fort Lewis. We have a significant number of base closures in the budget, all of which are going to be areas of discussion. We have crafted that budget very carefully and it is based on those base closures and realignments, so if we are not able to execute the program, it is going to put us in great difficulty in our resource area.

Mr. MURTHA. In fact, your infrastructure has far outstripped your ability to fill it up. It is way too expensive?

General VUONO. That is correct.

Mr. DICKS. Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Hefner.

Mr. HEFNER. Thank you, Mr. Chairman.

I want to congratulate you on your exercise in Panama, operation "Just Cause." Of course, it doesn't surprise me since many of the people came from Fort Bragg and I was also relieved to see that Fort Bragg was not a base closure candidate. General Stiner has done a great job down there.

We have been hearing some rumors, and I feel sure that that is just what they are, that you want to do away with the Junior ROTC program. I feel sure that is just a rumor. Could you comment?

Mr. DICKS. We all have to take a little bit.

General VUONO. No. We have looked and are continuing to look at all of our programs, but we plan to fund the Junior ROTC program.

Mr. HEFNER. I felt sure it was just a rumor that was being passed by some subversives. I think that is a good program.

We talked yesterday about inventory problems and I was just reading that one of the criticisms was that you have too many uniforms. Coming from a textile area, I don't think you can have too many uniforms because we want our people to be very well dressed.

General VUONO. You know, we have a great program in the Army that says our soldiers are better than they look, so we are working on improving the appearance of the uniforms.

The issue was not the number of uniforms; it was the number of sizes of a particular shirt, and we have taken action to correct that.

Mr. HEFNER. If you wear your coat it doesn't matter about the shirt size.

I want to make one comment—I served on the Budget Committee for six years and it always bothered me that I have never thought that the Army got their fair share of the Defense budget.

There are a lot of programs where I think we could get more money to put into the Army. I think you do a tremendous job and it is good to know that the Secretary had one of his children marry a young man that comes from my district, so we are making some positive inroads.

I want to thank you for coming, and at this time I have no further questions. I think you are doing a great job.

I am going to yield what time I have left, Mr. Chairman to Mr. AuCoin who has pressing business in other places.

Mr. AUCOIN. I appreciate the gentleman yielding to me. I have to be in the Speaker's office in a few minutes on matters of utmost importance.

Secretary Stone, and General Vuono, I want to talk about my number one priority with the Army, and that is the Infantry and I would like to ask you, what is your number one infantry weapon, this AAWS–M?

I will tell you I said to the Secretary the other day that you have really got to rename this thing. To call this weapon AAWS–M has two strikes against it. Why don't you call it Tank Buster, because that is what the thing is going to do.

I would like to know if it is accurate to say that the AAWS–M, the infantryman's tank weapon, is the Army's number one development for the Infantry?

Secretary STONE. If I could give perspective on this. I know that I am talking to an Infantry soldier and so I appreciate your particular interest in this.

General Pihl, who acts as my Military Deputy in acquisition matters, knows I have been on a kick to rename certain of the Army systems because I share your concern that they don't really convey any sense of description or utility of what we are trying to do. Let me give you two examples of where we have changed. One happens to be almost related to this program, at least in name. We had another program called AAWWS—we now call that program the Longbow program. We just named another helicopter program that had a rather unintelligible acronym, AHIP—we are calling that program the OH–58D Kiowa Warrior. So I will make it as my first commitment to this committee, Mr. Chairman, that we will rename before you finish your mark, the AAWS–M program as well.

Mr. DICKS. Would the gentleman yield briefly for a historical footnote?

Take a lesson from the Navy. Remember the Navy had the ULMS, the underwater launch missile system, and they renamed it Trident and it went right through. They had never gotten it through Congress before.

Mr. AUCOIN. Is it your number one priority?

Secretary STONE. You have heard me say in my opening remarks that there were certain modernization programs that I thought were absolutely essential to the Army and if the record reveals it correctly, I mentioned the AAWS–M.

Mr. AUCOIN. Mr. Secretary, as you know, the authorizers in a fit of what we think I am sure was wisdom, decided to require you to test something called the Bofors Bill against the existing Dragon II, which is the one we are trying to replace with AAWS–M. They mandated that and I understand that you will be asking to finance the cost for this test by reprogramming from AAWS–M.

If it were not for that congressional authorizers' mandate, would you have proposed this test to the Congress?

Secretary STONE. We would not. We do not believe the Bill has any advantage in terms of lethality, portability or any other function that would lead us to buy Bofors as an interim system. The availability of that system, if we were to conduct such a test, would

not be with us until late in fiscal year 1992. It would require us to develop a whole new training base. It would have manpower considerations, logistics considerations and all of that, to provide a small interim capability for about $150 million—money that we would prefer not to spend. If the program stays on track and we are encouraged that it will, it will complete fielding equipment to its first unit in February 1994. AAWS-M capabilities far exceeded those of Bofors Bill.

Mr. AuCoin. And the AAWS-M program is on track right now?

Secretary Stone. Yes sir, it is.

Mr. AuCoin. No glitches that we can see right now?

Secretary Stone. It is an advanced technology and I would never say there are no risks in advanced technology programs. It is on schedule, production begins in fiscal year 1992.

Mr. AuCoin. Leaving aside the source of the reprogramming, what if Congress were to increase the defense budget by whatever amount it was that you need for the test? General Vuono, maybe you could respond. In your professional judgment, if that were the case, would this test be a rational and productive use of taxpayers money?

General Vuono. I don't think the test is necessary, no. We were directed to do it but in my view, it is not necessary.

Mr. AuCoin. We know that the Bofors Bill has better range than the Dragon II but my understanding is that it is heavier—120 pounds—this is an infantry weapon versus 73 pounds for the Dragon II and I believe AAWS-M is a 45 pound weapon. The Bill has better range than the Dragon II, but it is heavier and harder to carry than the Dragon II, which is the albatross of the Infantry. fantry.

Do you see this test offering any useful information beyond the fact that we could establish what we already know, which is that it has better range?

General Pihl. The Bill is a crew-served system as compared to the goal of a one man system for the AAWS-M.

Mr. AuCoin. My understanding is it takes four men to fire two missiles.

General Pihl. It does. The standard missile system is carried separately in two loads with each man carrying around 100 pounds.

Mr. AuCoin. What would we learn from a test?

General Pihl. What the Swedish Army knows—that the missile functions and performs at twice the range of Dragon 2.

Mr. AuCoin. When you get into the critical question of lethality how does it measure up against the Dragon II?

General Pihl. Sir, in terms of its probability in hit and kill, it is superior to the Dragon II just slightly.

Mr. AuCoin. Only slight improvement, but against the AAWS-M——

General Pihl. It does not compare. AAWS-M is a weapon that will come out of the command launch unit, pop up, fly to the target and attack from the top. So you are looking at top attack systems but that is the only similarity in both systems.

Mr. AuCoin. Does the Bofors Bill have any lethality against reactive armor?

General Pihl. Sir, it does not.

Mr. AuCoin. Is AAWS-M designed to penetrate reactive armor?

General Pihl. Yes sir, it is.

Mr. AuCoin. What percentage of the Soviet task force currently has reactive armor.

General Pihl. ———.

Mr. AuCoin. And by the time AAWS-M is deployed, what would you guess your percentage would be?

General Pihl. ———.

General Vuono. The AAWS-M is able to defeat the current and enhanced threat and the future threat.

Mr. AuCoin. Given the fact that this is a new technology, and it is a complex technology, fire and forget, be able to jump up, shoot, drop out of sight, and have a smart projectile find and eliminate the target, there are technical risks involved.

I am very encouraged that the process is moving along well, but I don't think we can rule out the possibility of a technical glitch or possibly a cost glitch that could conceivably stop the show. I don't think that is going to happen, but I don't think we can rule it out. That might kill AAWS-M as we now envision it.

The question I have for you is if you took that extreme case, Mr. Secretary, and General Vuono—I would like you both to respond—take that extreme case, we have a technical or cost glitch that is a show stopper for AAWS-M as we now envision it. In that case what you would your preferred fall-back technology be? Bofors Bill people say we need to have this test of Bofors Bill versus Dragon II because we need a fall back in case AAWS-M doesn't work. Would Bofors Bill be the military professional's most desirable fallback or would you go back to those other two technologies that were in that shoot-off competition with the AAWS-M fire and forget weapon, and use some of those technologies to come up with the fallback?

Secretary Stone. The contract to put the current technology of AAWS-M into full-scale development was signed in July of 1989. Prior to that time, mostly in 1988, but starting in 1987, the Army, as you suggested, conducted a series of tests, both on Bofors Bill and another foreign-manufactured weapon called the Milan. We also tested three other technologies from the United States.

The selected AAWS-M fire and forget, the fiber-optic guided missile, and the laser beam rider missile. All were judged to be vastly superior to Bofors Bill.

Mr. AuCoin. Superior to Dragon II?

Secretary Stone. Yes.

So our fallback position—and you are right to say that the Army should have a fallback position if a problem materializes—would be to go back to one of those other two technologies. One of them is a very interesting technology which we are developing for another application—the fiber-optic guided missile.

Mr. AuCoin. Quickly, of those two remaining technologies, the fiber-optics and the laser beam rider, are both effective against Soviet reactive armor?

General Pihl. Yes.

Mr. AuCoin. So you have the AAWS-M effective against reactive armor which, by the time AAWS-M is deployed, we expect Soviet

tanks to be equipped with, the other two, fiber-optics guidance and laser beam rider, both effective against reactive armor.

I have heard if, as a fallback, you had to go to one of those that might mean a deployment in five years rather than two years.

Is that correct?

Secretary STONE. That is a technical question because we do have a fiber-optic guided missile capability now which is in advanced stages of development. It is still in the R&D area.

Mr. AUCOIN. My point is you have a candidate right now that you think is tops, it is fire-and-forget. It lets the infantry shoot and get out of sight with a smart weapon. It penetrates reactive armor.

You have two fallback candidates, both of which also are effective against reactive armor. The Bofors Bill isn't, and by the time the tests between Bofors Bill and Dragon II are complete, I guess we could expect that 20 percent figure to be closer to 50 percent, so the Bofors Bill that we would have to field as a fallback would not be effective in terms of lethality against 50 percent of the threat.

General PIHL. That is correct.

Mr. AUCOIN. I thank Mr. Hefner for yielding his time.

EUROPEAN FORCE REDUCTIONS

Mr. MURTHA. The gentleman from Ohio?

Mr. MILLER. Thank you, Mr. Chairman.

General, your statements, you have listed what strides and improvements have been made for the quality of life of our soldiers.

It lists quite a few things. Since 1980, 13 hospitals, 65 medical and dental clinics, 67 child development centers, 100,000 barracks spaces for the single soldiers, and a number of other things.

But with the cutback that is anticipated—and the President announced that we would have 195,000 soldiers in Central Europe, and that would be, as I recall, bringing back some 50,000; is that correct?

General VUONO. Well, it will be a little more than that if you start from the total number that was there before the INF Treaty, and if you include all forces there, Army and Air Force, it would be more than that.

Right now, we have about 309,000 over there and you would reduce that down to the 195,000, which would be in the zone involving the Federal Republic of Germany and the Benelux. The 225,000 number that the President uses involves all of Europe.

So the total reduction would be about 85,000, for both services.

Mr. MILLER. Now that we think about pulling back, yes, and in time, I understand we will pull back additional troops but when we are talking about———

General VUONO. I don't know that, Congressman.

Mr. MILLER. No, we don't know that for sure; that is correct.

Let's say it is being batted around in quite a few places. The question is what will be done with the hospitals, the barracks, the housing quarters for families—and I have had an opportunity to visit some of those—some were not in too good a shape, but they have been upgraded?

I remember when we had in the House a bill to turn over for free to a country that the U.S. was pulling out of all of the facili-

ties that we had. It seems that in this budget, not only in 1991, but maybe even looking at 1990, if we are planning additional construction overseas, that we should take a look to see whether we truly need it.

General VUONO. Well, that is a very good question, sir. It is one that we have studied extensively in conjunction with the theater commander over there, General Galvin, and the Army Component Commander.

What we believe we have done in the 1991 budget and in our program beyond is to take into consideration, as much as we possibly can, what we call the end state in Europe—what we will have in terms of forces deployed in Europe, and where, potentially, they will be deployed. We will build our construction program around that so that we don't put a new facility into a Kaserne that we plan to close in a couple of years.

All I would suggest is that it is something that we are very, very conscious of. We understand our responsibility and will exercise it absolutely to the best of our ability as we not only reshape the forces in Europe, but provide a quality of life of our soldiers and family members that they deserve while serving forward.

Mr. MILLER. I agree with that, but by the same token, we will not only have a pullback, as I understand, from Europe, but also from South Korea, from Japan, so there is quite a construction program that we go through every year——

General VUONO. That whole effort—I mentioned Europe because that is where the bulk of our forces are—was accomplished in conjunction with our commanders in Japan and Korea. We have overlaid all those possibilities.

That is the reason I described to the committee in my opening remarks the plan saying that we have a long-term plan here, not just 1991. All of those considerations have been factored into our plan, and we believe we have got it where it makes sense to us.

But the point that I would leave with you is that we should not and I know you don't feel this way but some would, arbitrarily cut all overseas construction simply because it is overseas. That is irresponsible to our soldiers and family members. So we will continue to work with the committees to ensure that the facilities we are asking for are the ones that make sense over the long term.

Mr. MILLER. I am sure you understand what I am talking about, in not having empty new buildings.

We want the proper buildings there for the soldiers and their families, but I can see that even in the 1990 budget that we are working in now that some of the construction programs could be held off a little instead of signing the contract to find out just where we are within the next six months or move it into 1991 and not harm the men and women that are in these foreign nations at the present time.

General VUONO. I believe that what we have in the 1990 and 1991 budget is executable with our long-range forward forces.

DESTROYING CHEMICAL WEAPONS

Mr. MILLER. Secretary Stone, you have in your statement remarks concerning chemical weapons and the destruction of chemical weapons.

As we know it now, some are leaking and it is a problem. Johnston Island will be in production or, let's say, reverse production at least, and will be the first of some nine incinerator units that will be constructed to destroy chemical munitions--apparently, eight other units will be in the United States.

As I understand it, the Defense Authorization bill limited what could be done with those incinerators after the chemical weapons were destroyed, and requires that the incinerator itself shall be destroyed. It appears we have had changes since then and it appears that there could be additional uses for those incinerators.

I have mentioned this several times, but I do not know whether you had any information on it or are making any plans or trying to change the legislation in some way so that we could keep those facilities in operation or at least some of them to destroy other hazardous materials, what would come from hospitals as an example. It appears to me that it would be foolish to put about a billion dollars in those nine incinerators and as soon as the chemical weapons are destroyed, we destroy the incinerator.

Do you have any information you can convey to us as to how we can go about this?

Secretary STONE. I would be glad to try to comment, Congressman.

I am intimately concerned with the program. It is very important for the United States. It has really two different elements involved in it. One is the withdrawal of chemical weapons from Germany, which the United States has made some undertakings to Germany to do by the end of this calendar year. The facility that is going to be involved in the destruction of those weapons is Johnston Island, as you said, and that plant is due to start its operational verification tests in the middle of April. We have just had people looking at the facility. They are already turning over some of the equipment and that is the plant that is going to deal primarily with the weapons from Germany.

At the same time, we have two facilities under construction in the United States; one at Aberdeen Proving Ground, Maryland and——

Mr. MURTHA. Tell us again about Johnston Island. Are you saying that Johnston Island is ready to accept the weapons from Germany?

Secretary STONE. No, Mr. Chairman, they are not ready yet. I think we will be in a position to know definitively some time this summer. The working acceptance trials of the plant are scheduled to start April 16th.

Mr. MURTHA. Go back further. Late last year we gave you permission to buy metal containers for the European weapons. We also gave you permission to reconfigure ships.

That is being done now?

Secretary STONE. Yes, sir.

Mr. MURTHA. And that is on schedule?

Secretary STONE. Yes.

Mr. MURTHA. Where are we specifically?

Secretary STONE. On Johnston Island, the contractor is working shifts 24 hours a day to comply with the start-up date and that will be to run all the systems, all the electronics. There are final hearings on environmental compliance that are taking place during March for the retrograde program. The plant is due to start up on 16 April.

The retrograde is due to start from Germany in September, and the munitions will then start to arrive in Johnston Island in October.

To continue, Congressman, the two facilities in the United States are a training facility for operators and supervisors at Aberdeen Proving Ground, Maryland; and a disposal facility at Tooele Army Depot, Utah, for the second of the nine plants that you mention. Those plants will deal with munitions that are presently stored at Tooele, as will the other plants when they are built.

The second part of your question is will these plants have a utility beyond the immediate disposal of the unitary chemical stockpile. We will be glad to look at that and will look at that during the time when these facilities are processing the munitions themselves. Whether the technology exists to adapt those plants to deal with other waste materials, I can't answer you today.

I will be glad to supply some additional material for the record on that.

[The information follows:]

In the 1990 Defense Appropriations Conference Report, this Committee directed the Army to investigate and report on the feasibility and desirability of using chemical weapon disposal facilities for other purposes after the primary mission is completed. The Army is in the process of doing that. To ensure objectivity, a commercial contract will be awarded for this study. The study will look at all possible follow-on uses for the disposal facilities but will not address the redesign of any of the facilities. The contract should be awarded soon and the results should be available at the end of the year.

However, it is important to remember that it is the Army's intention to comply with Public Law 99-145, as now written, which directs the destruction of the facilities upon completion of the disposal operations at each site.

Mr. MILLER. Last year we discussed this and someone from the Army brought up the point that if that is the intent, they should know fairly quickly because they could incorporate some changes in the original design. I am not sure whether that original design has been changed, and some ideas incorporated in there to take care of that waste that we are speaking of.

Secretary STONE. I don't know the answer to that, Congressman, but I will find it out for you.

Mr. MILLER. I understand there could be a problem if an incinerator is in a congressional district and there is a lot of public opposition, the Congressman is going to be back in order to try to have that particular unit removed.

As I understand it, in the beginning language on the destruction of the plant that was incorporated to satisfy those Members that were representing an area because they felt that their constituents would not want the waste moved through their district, but when we talk about hospital waste and things such as that, I cannot see a problem.

My other question was whether the Army has incorporated anything in the engineering and the design or any of the other plants, and you will check that.

Secretary STONE. I will.

There is another point about the operation of the facility, whether that should be the Army's business to conduct that sort of an operation, but there are other ways to approach that problem, too.

[The information follows:]

The Army made an internal assessment of the feasibility of redesigning the disposal facilities for follow-on uses. In light of the P.L. 99-145 requirements to dismantle the plants and design incompatibilites, no design efforts were elevated to follow-on uses. The Army has a mandate from the Congress to destroy the chemical agents and munitions using maximum protection. The current disposal facilities were designed to do that—destroy chemical agents and munitions safely. It would be unwise to redesign the facility to make it better suited for destroying something else.

In order to redesign the facilities, new testing would be required. This would significantly delay the disposal schedule. The Army has already constructed a facility in Johnston Island and is in the process of constructing a second facility, in Tooele, Utah.

With the current facility designs, there may be some opportunities, for use of the facilities to destroy hazardous wastes after the disposal program is over, if the Congress changes the law.

Mr. MILLER. I would hate to see that billion dollars go down the drain after the first step is accomplished.

Mr. MURTHA. Let me compliment Mr. Miller. He has been very tenacious on this subject and I appreciate your interest because it is a good line of questioning.

We appreciate your interest in this subject, which we are all concerned about.

PANAMA LESSONS LEARNED

Mr. MILLER. Thank you, Mr. Chairman.

Let me turn to Panama. Taking Operation Just Cause into consideration, you moved a lot of people and a lot of equipment to Panama. Yes, we know it was limited warfare, yes, we know it was a minimum amount of people, but do you, in evaluating what took place, see changes that we need in the Army, see equipment that we have now that we would be better off not having, or see the need to put dollars into some other piece of equipment?

It appears with what is going on in the area of nuclear arms negotiations, that we are going to be emphasizing the need to put out the brush fire, move fast, and put them out as quick as possible before we have a true war—we seem to be headed in that direction, and I think it is right. But I am wondering whether in communications, in the equipment we have, you would suggest any changes?

General VUONO. Mr. Miller, that is a very good question. Obviously any time you launch any type of combat operations you always look at lessons learned to see what you can glean from it, and Just Cause is no different.

We are in the process of doing that now and have not completed it. I must say, having been involved in the planning for the operation, having visited on the ground there, having met with all of my commanders from battalion up, that what we had provided the troops was what they needed. What is in the procurement stream

right now will satisfy any additional requirements that we have. So we are pretty pleased. Our helicopters did very well there. They worked very well. Our night vision goggles were top notch. Our weapons worked very, very well. There is not much that we would want to add to that either for our conventional forces or our special operations forces.

I have asked the commanders to let us know if there are any items that they think they might need that we either are not procuring right now or we haven't looked at. I think we are in pretty good shape. I am very confident that we are in good shape for the future.

We did use the Sheridan tank down there. People talk about it being a 1960 vintage system and it is, but it worked very successfully for us in Panama. We are looking, as part of our armored systems modernization plan, at an armored gun system to replace the Sheridan. Our HMMWV worked superbly, so we are pleased with the various systems.

Mr. MILLER. And no problems with communications?

General VUONO. Communications were not a problem.

Mr. MILLER. Thank you.

Thank you, Mr. Chairman.

Mr. MURTHA. Mr. Young.

NIGHT VISION DEVICES

Mr. YOUNG. Thank you, Mr. Chairman.

Mr. Secretary, and General, I would like to join the chorus of those all over the country who have complimented you on operation Just Cause, and the way it was carried out and how effective it was.

You mentioned about the night vision capability, General. It is amazing to me that you were able to pull this off and do at least your initial stages in the middle of the night and do it as effectively as you did. How many different types of night vision devices did you use in the operation?

General VUONO. I want to say three. I would have to recheck, but I believe we used three systems. Having talked to aviators who flew a number of the night combat assaults, they said we truly owned the night. If it weren't for those night vision goggles we could not have been as successful on the operation, which was characterized by speed, surprise and simultaneous operations.

So we used three types and what we had worked very well. Don could give you more of the technical details.

General PIHL. We had the AN/PVS-5, that was used primarily by the ground troops and in the air. The high quality systems are used in airplanes and then as the systems age, they are handed back for use on the ground. We have a dedicated night vision goggle system for the helicopter crews, the AN/VIS-6, which was also in use.

Mr. YOUNG. Did you use the one eye piece?

General PIHL. Yes. The Monocular PVS-7. It replaces the PVS-5 on the ground.

Mr. YOUNG. I am thinking of an older one. You didn't use that at all?

General PIHL. That is way behind us.

Mr. YOUNG. With the Monocular you have one lens but you use both eyes?

General PIHL. Yes sir.

Mr. YOUNG. You are telling me that the technology that we have today in the night vision capability is excellent?

General PIHL. Yes sir. We also have a world class night vision laboratory in the Army. The night vision lab is our best lab and their products and services really serve us well.

Mr. YOUNG. Tell me about the follow-on. The Monocular is the follow-on?

General PIHL. That is the PVS–7, a replacement for the PVS–5s in the ground role.

Mr. YOUNG. Do you have any of those in inventory?

General PIHL. Yes, we have bought about 51,000 PVS–7s.

Mr. YOUNG. I tested one. It was very impressive. With the one I saw, the distortion you could normally see around the edges was gone.

General PIHL. You normally have to cool thermal imaging night vision devices and these image intensifier systems operate at room temperature. So we are very excited about that technology.

ARMY TACTICAL MISSILE SYSTEM (ATACMS)

Mr. YOUNG. I am glad to hear that, because it certainly gives you capability that surpasses what the other side has especially in cases of low intensity conflicts like Panama or other places in the world.

Let's go to the question of Europe. What is happening in Europe, the melting of the Iron Curtain, the tearing down of the Berlin Wall, et cetera, which has been described so many different ways by so many different people.

We get the feeling now that probably the forces are going to be separated considerably more than they are today, meaning our forces, NATO forces, versus whatever the other forces might be. One of the very successful programs that this Committee has supported strongly for you is the Army Tactical Missile Systems, Army TACMS. Where does this fall in the event of a new strategy or the event of a new situation in Europe? Where does the ATACMS fit in? Is it going to continue to be important, or where does it fit in?

Secretary STONE. I will take the first crack at that and then ask General Vuono to talk more from the tactical viewpoint. From the acquisition aspect I think that the case for Army ATACMS is just as strong today as it was a year ago and probably stronger. If we are going to have our forces in Germany or wherever they are forward deployed covering greater amounts of physical territory, they should be able to be equipped to fire at longer range and deeper to continue the doctrine that the Army has developed over the years.

The Army ATACMS is presently in low rate production. It has had a successful testing program. It goes out ——— kilometers with a very lethal payload. It is on schedule in terms of its development. Despite a problem along the way where they had to switch one subcontractor, it is on budget.

The actual 1990 dollar figure per missile is lower than it was estimated to be in 1985 and as the Acquisition Executive, it is one of the programs we have identified to you as a Defense Enterprise program. It is coming along well and I believe it should be in the Army inventory.

General VUONO. I think the Secretary described it very well. Even as you see a near term lessening of the threat in Europe, Army ATACMS, both for a NATO operation and for other contingencies around the world, will give you capability in terms of range, accuracy and lethality that we would be ill-advised to pass up.

So I believe that as you reduce the level of your manpower you have all the more reason why that system is very important to us.

Mr. YOUNG. Are you satisfied with the amount of dollars in the budget this year for ATACMS?

General PIHL. Yes, sir. We have a request for $180 million for 318 systems, sir, and that suits our needs.

Mr. YOUNG. If it were important to reduce anything in this budget, would you prefer to protect this program or would it come in for its share?

General VUONO. I was hoping that there would be no attempt to reduce any of the Army budget, since we are at bare bones right now.

Mr. YOUNG. I agree, but maybe you hadn't noticed that a lot of our colleagues around here are demanding a so-called "peace dividend" and they are going to be wanting to take a lot of money out of this budget that we prefer to spend on ATACMS. We will try to see that your request is complied with.

Mr. AuCoin. The Army gave at the office.

HELICOPTER PROGRAMS

Mr. YOUNG. That is right. I am sorry you missed the conversation about how important ATACMS is. Mr. AuCoin has been a strong supporter of the program in the past. We appreciate that.

Mr. Secretary and General, the General's statement makes the point that despite unilateral cuts, the Soviets have never talked of reducing the readiness of their forces. Their modernization effort continues.

In the case of our helicopter modernization, we have been modernizing our attack Scout helicopter units with the Apache and AHIP. In order to complete the modernization you would have to replace a number of the old Cobras and Scouts, which remain in the Active and Reserve inventory. Yet your recommendation would shut down the Apache and AHIP lines before the modernization is complete.

Your posture statement makes the point that your modernization plan includes production of AH-64s and OH-58Ds to support special operation forces, but the IOC for LHX is FY 1997, six years away.

Wouldn't we be more comfortable if the two lines, the Apache and AHIP, were maitained until we get a little closer to LHX?

Secretary STONE. Well, that is a most important question. I am glad to have the opportunity to comment on it.

There are two implicit points in your question; what do we need to modernize the army helicopter force, and then how do we structure a program that will fund it?

Your question gets into the issue of the overall Army budget, which has been a part of most of the comments that we have had in the last hour and a half. I think I mentioned in the last moment of my opening statement, and I am not sure whether you were here when I said that—that the Army had four high priority programs. We could really list five or 20 and cover all of our appropriations, but if I had to single out some that were in the highest priority, one was responding to a question from Congressman AuCoin, and a second one is in this area. I listed the light helicopter as being very important for the Army.

We terminated 15 programs in the Army, not because we didn't want them or there isn't a place in the Army for them, but because we can't afford them. I don't think we can afford, in relation to the threat and changing environment, to have everything, so we cut back and looked at the helicopter program. The light helicopter program is presently on schedule. Leaving aside your completion point, and I will come back to that, I will discuss your first unit equipped comment. It is on schedule, on budget, and on specifications as far as we know. We think we are going to hit a 7,500 pound weight and a $7.5 million acquisition cost, which is what we set out to do if we bought 2,096 for a total Army force structure as it has existed to date.

The original acquisition objective for the Apache was, I think, 975 and today it has been reduced to 807. The original acquisition of the Kiowa Warrior, the improved OH-58 helicopter, was 375, and it is 207 plus the 36 more that we were authorized to buy last year for 243. Both of those are very fine helicopters and we like them very much. We are upgrading the Apache with the Longbow program which will keep that line going into the 1993-97 period, and that is a very important program. We can't do, in our judgment, all of these things. Again, to continue my answer to Congressman McDade on the tank program, I said that the Army needs to concentrate on a technology development which will give us a very, very survivable helicopter in the next century and that I think is the biggest single attribute of the light helicopter design. It has much higher survivability, has a lower detectability, and the second important thing is the one that I guess I spend most of my time on: the operating cost. It will have an operating cost, for example, 40 percent lower per hour than the Apache and about equal to that of the OH-D, yet be more capable. It has a very fine engine which has already been selected. It is already being installed on foreign helicopters. The T-800 is a first-class, world caliber engine. It can be maintained with one wrench on the outside that does all the external maintenance. When we have the light helicopter force, we will be able to maintain the battalions that we have with less people in them. So for us I think it is a very defensible program and a very important part of our modernization.

General VUONO. Our modernization strategy is built around a series of modernization plans. The lead is the aviation modernization plan which is in the process of concluding procurement of a number of new helicopters, the Apache, the AHIP, the Blacl. Hawk

and the Chinook. It sustains those systems and we are stressing the completion of the development of our new light helicopter which will give us the greatest technological breakthrough in the future.

You adjust the plan to meet fiscal realities and the changing threat. Fiscal realities and evolving political military realities say to us we can't afford to continue the line for present helicopters and while going after future technology.

Based on the reduction in the threat, we elected—although we would have liked to continue to buy—to cap the line on the Apache and the AHIP and put our efforts on the mid- to long-term. We think that we have sufficient Apaches to help us through this period of time.

So that is the decision we made. That is why we ask for the support of this committee for the Army's modernization strategy; not just for helicopters, but for all modernization. We accepted some prudent near-term risks so that we don't have to continue procurement. We went for the high priority research and development of future systems.

Mr. YOUNG. You feel comfortable with that, the fact that there is going to be a separation between your modernization and the IOC of your light helicopter?

General VUONO. I never feel comfortable about not being able to provide all the resources that I need, but I believe in this case it is an acceptable risk and one that we are willing to take if we can assure ourselves that we will get future technology in the follow-on effort.

Mr. YOUNG. I mentioned fiscal year 1997 in my statement. Do you agree with that?

General VUONO. We are carrying December 1996.

Mr. YOUNG. You know, prior to either one of you assuming your present positions this particular program of LHX was all over the board.

This committee listened to LHX issues for a number of years. You are satisfied that you are on track now?

General VUONO. I believe that we have reviewed the program, made the necessary adjustments, prioritized in terms of what capabilities we want in a light attack armed reconnaissance bird, and are on the right course.

RESEARCH AND DEVELOPMENT

Mr. YOUNG. One more question, if I may, and one that my colleagues are going to get tired of hearing. I am happy that you mentioned, Mr. Secretary, in your statement, that the Army has a technology-based master plan.

One of the big concerns that I have, and I see this developing, is that in today's world, with what has been happening in Europe, we are losing a lot of investment capital from the defense industry. It is not out there like it used to be.

We are finding defense contractors selling their defense activities or threatening to sell them. We are finding them looking toward areas of operations that are going to be profitable to them rather than research and development, and what concerns me is that we

may be moving away from a very strong, powerful technology advantage.

As we reduce our force we have to modernize, we have to get more out of every person that we have in uniform. Technology, of course, is a large part of that answer.

It concerns me when I look over the industry and see investment capital going different directions than to defense, it bothers me when I see companies being sold off. I see us facing the real possibility of losing that technology advantage, that technology base because research and development, I am afraid, is not going to have the importance to these companies in the future as making the quick dollar to attract capital. I may be wrong, but that worries me in talking with people in industry. Talking with people who are investors and folks who are involved in the R&D community, and I wonder if your technology-based master plan is going to address these type of issues.

Secretary STONE. You said a moment ago you thought you might be wrong. I wouldn't say you were wrong at all. We are worried about that. Three people I work with in the top leadership of OSD now share your concern: Mr. Atwood, Mr. Betti and Secretary Cheney have taken this issue and are concerned about it.

From the Army viewpoint, the plan that we are developing is very much focused on this. There are two examples of putting our money where our mouths are. When the Chief and I came to the point where we put our chop on the 1991 budget before you right now, we did not reduce the funds that we are spending on R&D. They were maintained, and that was a conscious effort and it took money away from other parts of the Army budget. You are quick to say that our R&D budget is small, and the Air Force R&D budget is bigger than our procurement budget. Ours is not as robust as we would like it to be. Another point that came up indirectly was that we had to kill the production of the procurement of a system. We had to take the risk, the technology risk. We did not take that program out of R&D. The winning contractors on that program are Boeing and Texas Instruments. The fiber optic techology for the states is so important.

We are clearly the world leader today. We have put R&D money behind that program to keep it going. We are very sensitive to it. We share your concerns. I hope we can respond as effectively as we can.

General VUONO. We have a negative real growth in our budget, and a two-percent real growth in the technical base. We are pursuing a number of technological areas that we think are linked to how we intend to fight in the future.

We are optimistic they will bear fruit.

Mr. MURTHA. Thank you. Mr. Livingston.

ADP PROCUREMENT

Mr. LIVINGSTON. Thank you, Mr. Chairman.

I was among the members of the delegation that went to Panama. It was a superb operation. I can't say enought good things about it. It was a terrific operation, a great example of some highly

qualified, well-trained troops. We don't want to do anything that would disrupt the great quality of training.

On a personal basis, I will say I have seen other examples of good training and the results of it in the Army last year. However, the Committee has expressed dissatisfaction with the Army's management of the automatic data processing program in which the Army spends about $2.5 billion a year.

Internal Army audits, committee Survey and Investigations, S&I, reports, and the Government continue to disclose federal management problems in areas such as organization, planning, acquisition, and inventory.

One DOD I.G. report stated that the Army did not follow federal defense or Army regulations on a particular acquisition. I wondered what actions are being taken to improve the management of the ADP program.

Secretary STONE. That is one of the more difficult questions we have had to field today. I wish I could give you a more specific response to that question; although, I think I can say something to give you a little bit of encouragement. I think it has been a difficult area for all of us in the services. I wouldn't try to speak for them, but I do meet with my colleagues regularly and we discuss that problem.

I think we have made progress in two areas. One, I think we have made some technical progress in improving our architectures. I think we are much more in tune with the world today than we were when I came into the Army four years ago. Then, we were looking introspectively in the Service. I don't think we were looking outward enough in terms of what was happening with industry. I think our conformance today with the technological developments going on out there is better today than it was four years ago. Second, I think our procurements are done a little better. We have not had a major one in the Army for a year or so. We have several coming along that are in that category. I think we are doing more joint programs, which are more economical. We are buying with the other services. The Air Force has bought off of one of our computer contracts. We are now buying off some other services contracts. I think you will see that is a trend. That should lower unit costs because of the volume involved.

We have had problems. I think the biggest problems that we have had are in the area of intermingling funds unintentionally. For example, in some cases we believed operating funds could be used for small computer procurement; $5,000 for a printer and monitor and some hard disk storage. The auditors or the GAO would say, "you ought to use procurement funds for them."

I think we are gradually getting the word around where you can use one type of funds and can't use the other. I think you will see less of that in the future. I hope we can eliminate it.

AMMUNITION PLANTS

Mr. LIVINGSTON. We urge you to. We want to continue to monitor the program.

Mr. Secretary you have asked for a zero base management study of the Army ammunition plants to determine the proper mix of

those plants and how many should be kept open. The Department has announced the possible layaway or closure of six ammunition plants in the next four years.

I just wondered how you correlate it. Are we not jumping the gun? We are announcing the closure of plants before we finish the study. Does that not prejudice the outcome of the study?

Secretary STONE. The study was finished at the end of the year. It did, indeed, provide the basis for the recommendations that we have made. Those actions are proposed. I think they have been accepted by Secretary Cheney. Because they are beyond the 1991 budget period, they are not formal parts of our proposals to you at this juncture. That was a difficult decision for us to make.

I think it reflects a number of factors. One, the weapons business is changing today. We were talking about ATACMS a moment ago. More of our weapons now tend to be higher-cost electronic guided missiles than the type of munitions that came out of the old plants that were producing explosive charges, warheads, and so on. The business is changing. Some of the old plants are simply not capable of making new types of munitions. The second factor is the reflection of the threat that we have different warning times, different firing rates, et cetera, today.

We do believe we have our training ammunition requirement now in balance with our production, which has been a problem for us in the past. What we are trying to do now is balance the overall storage requirement with what we think we need. That is the real reason for the cutback.

Mr. LIVINGSTON. There is probably going to be a problem related to what Mr. Young asked. That is the ability to provide or keep in business contractors who will ably provide you with contingent needs for the future. I wonder what you see is the proper role of contractor-owned ammunition plants in the ammunition industrial base in the coming years, how you see that changing?

Secretary STONE. We use contract-operated facilities in a number of places. Certainly they will continue to be a part of the mix of procurement sources that we use.

If anything, I would think it will increase in the future. We have plans to offer up for lease one or two of those plants that we still expect to retain in production. I don't see any diminution of the number of contractor-owned facilities.

Mr. LIVINGSTON. Do you think we will have an adequate mobilization base for production in the future?

Secretary STONE. I think we can continue to do that. We have 17 plants in operation today. Those will decline as the total force requirement declines. Some number of those plants we will have to continue to preserve as a part of the mobilization base. We do not expect to dismantle them.

Mr. LIVINGSTON. Thank you very much.

MILSTAR SATELLITE PROGRAM

Mr. MCDADE. Let me draw your attention to MILSTAR. I note that the Army's budget has no money in it for the ground communication system terminals. You know, last year the Committee zeroed this because we weren't sure about the Department's real

interest in it. We said, if you fellows want to do it, you have got to show us your desire by funding the programs. A couple of years ago we had to add $100 million over here. We hear that is still the number one priority. Yet, although substantial funds are in for the other two services, I see this one is still at zero.

What is the current status of your program? Why haven't you requested funds?

Secretary STONE. I share your puzzlement about this. It has been a sort of rubber ball in the Army. I don't think it reflects any lack of interest on our part in the SCOTT terminal, which is the ground link to the MILSTAR communications device. I think it reflects scheduling problems, whether the satellites themselves will be up there to communicate with, and when we will have our receiver requirement in the field.

I will ask General Pihl to comment more.

General PIHL. The Office of Secretary of Defense deferred the fiscal year 1991 Other Procurement Army funding to 1992. We have a request for——

Mr. MCDADE. It is on the deferral list?

General PIHL. No, deferred in the sense moved it from one year and slipped it out to the right.

Mr. MCDADE. Internally. It is called internal deferral?

General PIHL. Yes, sir. It was zeroed out by the Congress in 1990. It was zeroed out by OSD in 1991 and moved to 1992.

Mr. MCDADE. When the Army sent its budget up, you had the money in and it was deferred upstairs?

General PIHL. That is correct. We had a request for $217 million. It was not funded in 1991 by OSD.

Mr. MCDADE. Have you indications, and we will ask, I will make the inquiry of OSD directly, do you have any indications why they took that position?

General PIHL. It is a question, I believe, of symmetry between the MILSTAR satellite systems and the single channel objective tactical terminals.

The question is bringing them in balance. As the satellite constellation was being looked at, they didn't need the ground terminals in that year.

Mr. MCDADE. Put in the record the five-year funding profile for the Army.

General PIHL. Yes, sir.

[The information follows:]

The amended FY 1991 budget reflects Army MILSTAR funding profile as follows:

[Dollar amounts in millions]

	FY 1989	FY 1990	FY 1991
Funds	36.500	0	0
Qty	12	0	0

The production contract for the SCOTT/MILSTAR terminal is scheduled to be awarded in FY 1992. Resources, however, are not shown beyond FY 1991 consistent with current DOD policy.

ARMORED GUN SYSTEM

Mr. MCDADE. Let me ask you a question about this light tank issue that has been around for a while, as well. It is one that is yet to be resolved. Would you describe the characteristics that are required for that light tank?

General PIHL. Sir, we are looking at a vehicle that will mount a 105 millimeter cannon so that we can fire the full complement of armored enhancement initiative ammo 105, the same fired on the M60A3 tank and the basic M-1 tank.

To do that in terms of absorbing the forces of the recoil, you need a vehicle that weighs around 22 tons. You can do that in a wheel vehicle as well as a track vehicle. We need a 105 standard cannon, that weighs between 20 to 22 tons. We would like to go out and buy one of those products that are out there in the free world.

Mr. MCDADE. What products are you looking at?

General PIHL. One built by the Food Machinery Corporation in California, one built by General Motors in Canada.

Mr. MCDADE. Are these in inventory someplace?

General PIHL. No one has put the 105 gun on yet.

Mr. MCDADE. The chassis are being used. FMC is supplying the chassis for what?

General PIHL. They are not. As you know, we have had this program——

Mr. MCDADE. How about GM in Canada that you mentioned? Have they got something in the inventory, a chassis of some kind?

General PIHL. No. I know of two built in the U.S., one built by Food Machinery and one built by General Motors of Canada. At the present time there are candidates that come from the foreign governments such as the Styr of Austria and there is a candidate from the United Kingdom. There are several places where we could take a vehicle and put it together.

Mr. MCDADE. There was a time when we used to hear there was some disputes between the Army and Marine Corps about which way to go. Where does that issue stand today? Are you close to an agreement?

What does it look like?

General PIHL. Sir, as far as the agreement to build the assault gun, we and the Marine Corps were in harmony through 1988. We gave back the assault gun as a part of the $10 billion give-up in the 1989 amended budget submitted by OSD. The Army withdrew from a program we tried to convince our leadership we needed.

This is about, in my time, our fourth chance at an assault gun for the United States Army. I think we really need one. It gives us versatility.

I see no difference in that kind of capability between the Marine Corps and the Army as far as assaulting positions are concerned with 105 kinetic energy tank rounds.

Mr. MCDADE. I am sure it is probably a hard question. It sounds like you have not crystallized where you are going. I would like to get some kind of idea about when do you intend to make a selection? And what is the funding profile?

General PIHL. When we changed our program in terms of armored systems modernization from its former name, heavy forces

mod, that was to connotate a signal to you that we were lightening and we were adding an assault gun to that package of six vehicles. We are at the earliest stages of revisiting the assault gun.

We are at the marketing survey level. We have not been through a systems acquisition review council, we have not put money in our fiscal year 1991 budget.

Mr. McDade. Can I ask you to polish your crystal ball? When do you think you might be making some kind of selection or requesting money to begin to start the process of procurement?

General Pihl. Since we will look at a non-developmental item, it will be in the 1992 budget.

General Vuono. Let me pick up on that because I think it is important. As General Pihl stated, we have expanded our heavy force modernization effort. We call it armored systems modernization, to include all the systems.

That package will include the request for the armored gun system. It is working right now. I anticipate that it will be in our 1992 program. I am optimistic that we will be able to convert that into a budget line item when we submit the 1992 budget. It is a system that we need for our force.

Mr. McDade. You have no disagreement about its essential characteristic to the future force.

Thank you very much.

Thank you, Mr. Chairman.

Joint Readiness Training Center

Mr. Dicks. What is the status of the Joint Readiness Training Center?

General Vuono. It is in an interim location now at Fort Chaffee. We are looking at a number of candidates that have been proposed and they are being studied for the ultimate final location of the center. They have not been brought to the Secretary and me for our decisions. I hope we will be able to make the final decision on where it is going to be located.

Mr. Dicks. Will structure changes affect that at all?

General Vuono. In my view, as you go to a smaller force, if you want to be trained and ready, there is an even greater need for the training centers than there has been in the past. I have been a strong advocate of those training centers. They have proven their worth in combat. I talked to a battalion commander at one of our divisions in Panama. He said, "Thank goodness I was in JRTC because it helped me perform down here." We are going to continue to support them. We have funded them through the budget year and in the program.

Mr. Dicks. I read articles one of the lessons learned out of Panama is on urban warfare training.

General Vuono. One of the lessons that came out of the operation was the need to continue our emphasis on urban warfare training for both our light forces and our heavy forces.

We have constructed a number of military operations in urban terrain, MOUT, facilities at a number of our installations. Their importance was demonstrated in Panama.

I might add that in the action where we eliminated the Commandancia, which was Noriega's major headquarters, it was a light and heavy forces operation using mechanized elements of the 5th Mechanized Division from Fort Polk. Their firepower was very successful in completing that operation.

Mr. DICKS. After Grenada, we had a series of hearings. We found a number of deficiencies. One thing we picked up on our trip down is the system they were using that they felt didn't work very effectively against these buildings at the Commandancia. What about that? That apparently is a deficiency they felt troops on the field thought they had.

General VUONO. I have not had that raised with me.

Mr. DICKS. They told us it didn't work very effectively.

General VUONO. It might have been the AT-4 used as a bunker buster?

Mr. DICKS. Yes.

General VUONO. Against concrete.

General PIHL. It is not designed to perform against concrete.

Mr. DICKS. Is there something else they should have had that they didn't have? Is that a lesson learned?

It seems to me, we are about to celebrate in this, but there are also ways to improve.

General VUONO. So far, presently, everybody was pleased in what worked out in terms of what is there or what we have in the procurement stream. Certainly those are the kinds of things that should bubble up as we get into details on lessons learned.

Secretary STONE. Could I add one comment about the Joint Readiness Training Center? There are four sites under consideration. The analysis of those sites is being done. One of them is Lewis, one of them is Chaffee, one of them is Fort Stewart in Georgia, and Camp McCoy in Wisconsin. There was a fifth one tentatively added for consideration late last summer. That may delay the date that the Chief gave you a few minutes ago. We expect to make the decision this summer. The inclusion of that fifth one——

Mr. DICKS. Is this West Virginia?

Secretary STONE. This is the West Virginia site. As far as I know, it is being offered by the State of West Virginia as a possible site for the Joint Readiness Training Center. That may delay the site selection.

Mr. DICKS. Is the West Virginia site in the ballpark?

Secretary STONE. There is a question of whether the acreage is available.

Mr. DICKS. I know these things get changed.

Secretary STONE. It may not.

Mr. DICKS. Try to make these things on the merits, if you can.

General VUONO. Congressman Dicks, we will do that. We are going to pick the site that gives us the greatest capability to train our troops.

MILSTAR SATELLITE PROGRAM

Mr. DICKS. What about MILSTAR? Do you want MILSTAR or not?

There is no terminal money in this budget. MILSTAR, I think, is a very important system.

Secretary STONE. I think the Secretary of Defense decided it should not be in the budget. We want MILSTAR down the road. It is funded down the road.

Mr. DICKS. In the Army?

Secretary STONE. The Army part of it.

Mr. DICKS. The Army part of it.

Can you put information on the record about ERIS and HEDI?

Secretary STONE. We have conducted the first test of the HEDI missile. The last flight of the missile was launched on January 26. The flight was successful. It demonstrated 80 percent of what we expected to learn and demonstrated it successfully.

ANTISATELLITE PROGRAM

Mr. DICKS. Let me ask you about your antisatellite program. Where does it stand now within the Army? You have taken the lead on the ASAT program?

Secretary STONE. We have been assigned the ASAT responsibility for that joint program and the program is under way. It has been approved by the Defense Acquisition Board process. The program is fully funded.

Mr. DICKS. What kind of a system were you using?

Secretary STONE. A kinetic energy system. We have also been directed to upgrade the MIRACL laser missile range which is a directed-energy system. There is a small amount of funding behind that program.

UNIFORM REQUIREMENTS

Mr. DICKS. Now, just to end this on a slightly different note. In 1985, the Army wanted to add 100 more sizes to the existing 58 sizes for the long-sleeve dress shirt for your female soldiers. Ignoring warnings that 158 sizes weren't needed, the Army went ahead and added 68 sizes, bringing the total available to 126 different sizes. That proved to be excessive for the 86,000 women in the active services.

More than $3 million of the shirts costing $14 each are now gathering dust. Now the Army wants a totally new shirt. The Navy is also in this.

It gets down to that one final thing. At least we did a study. It says, "Oddly enough, the Army spent $3.5 million over several years measuring different women."

General Pihl, were you in charge of that?

General PIHL. No, sir.

Mr. DICKS. In contrast, an apparel industry spokesman noted the private sector ceased doing these anthropometric studies after World War II because they are expensive and unnecessary.

Are we fighting the last war, gentlemen?

General VUONO. By third quarter fiscal year 1990 we will have reduced the number of sizes of women's shirts.

Mr. DICKS. Who is in charge of this one?

General VUONO. I am.

Mr. DICKS. I just wanted to see if we had this much straightened out. You can do anything you want. If you want to round this one out, go ahead.

General VUONO. I would rather not.

Mr. MURTHA. Mr. AuCoin?

COUNTER-TERRORIST WARFARE CAPABILITY

Mr. AUCOIN. I was in the Army for three years and I didn't get a job like that.

Mr. Secretary, you mentioned in your testimony counter-terrorists' warfare capability. I would be interested in your response or General Vuono's response to this question, that has to do with hardware in meeting that capability.

What would you say is your biggest unmet hardware need to meet that capability today? Do you want to think about it and respond for the record? That is fine.

General VUONO. As you know, we are trying to give them an upgraded helicopter capability. I think probably right now that is the one area that we need to get an improved capability; we need to make it better.

I must say in that regard, I met with all our Special Operations Forces in Panama, those who were down there. I asked them that question. I said, you know, "Is there anything that we have not provided you?" They said, "No." They had what they needed.

Mr. AUCOIN. We are in pretty good shape?

General VUONO. I believe so. I think we have a real success story. We continue to give them the priority that they deserve.

TANK GUNS

Mr. AUCOIN. Let me ask you a question about tank guns. I have been getting briefings over the years that consistently have told me that the Soviets have gotten more powerful guns on their 40-ton tanks than we have on our 60-ton tanks. They have got larger caliber guns, higher muzzle velocity.

I was persuaded by those briefings. Then the folks up at Aberdeen told me recently that most of our kinetic-energy penetrators are made out of uranium, depleted uranium, whereas most of the Soviets' penetrators are made out of steel. Uranium is a lot heavier and has more density than steel. Is that not correct? We are using uranium and they are using steel.

The Aberdeen people tell me that gives us a density advantage of almost 2½ to one. In a kinetic kill environment, that density, coupled with speed, is the whole ball-game.

If you factor that in, how does the kinetic energy of the Soviet tank guns compare to ours of comparable generations? That is the T-80 versus the M1A1, the T-64 versus the M60A3 and so forth, when you factor that in?

General PIHL. The key question is overmatch and the reason why they have a 125 when we have a 120. What we are going to go to in the Block III tank, which is a ——— is to fly a bullet at ———. That is what gives you the velocity so that when the long-rod pene-

trator, the dart, reaches the target, it will do its function physically and perform penetration.

The real question there in steel versus tungsten versus the depleted uranium, we have looked at this carefully and we think the advantage goes to the depleted uranium. It is the heaviest of the metals, a commodity we are able to produce and control technically.

Mr. AuCoin. Don't we have the depleted uranium?

General Pihl. We have one in the 105 caliber and one in the 120 caliber. The higher your L is over D, the better your penetrator will perform.

Mr. AuCoin. When you factor that in, the Soviet advantage we have been hearing about is not as great an advantage as one might have thought?

General Pihl. That is correct. They can increase their capability by going to a different metal. They would also have to have the physics process in order to control that process. That is one of the advantages we enjoy.

Mr. AuCoin. Put all those factors together, including the critical one I am trying to drive at, and you make the choice, which one would you take?

General Pihl. The depleted uranium, sir.

Mr. AuCoin. That would have the advantage in the overall?

General Pihl. Clearly.

Mr. AuCoin. I have had some briefings that have not been on target then, I have to tell you, General. I don't think that really helps the Army in the long run because all I have been hearing about are all these other characteristics. It wasn't until the Aberdeen folks began to call my attention to this that I began to see the whole picture. That is not the kind of briefing, I think, that Members of this committee or any committee in Congress needs.

General Pihl. Sir, I will clear that up for you.

Mr. AuCoin. I don't have any more questions, Mr. Chairman.

Mr. Murtha. Mr. Young?

Destroying Chemical Weapons

Mr. Young. Mr. Chairman, I would like to ask one more question.

Earlier we talked about the destruction of chemical weapons. We got off into the conversation about Johnston Island. We didn't get back to the discussion of chemical weapons. Recently I saw a demonstration of cryofracture procedure where they froze the whole thing, whatever it was, they froze it, ground it up and destroyed it. It was really impressive.

I wonder if you have seen that?

Secretary Stone. I have not actually seen the process working, Congressman. I will try to see it because I have been very much involved in this program. I have talked to your Chairman about it a number of times. I have also talked to people in the Office of the Secretary of Defense.

The Congress has directed us to continue research and development in that program. The Army is complying with that direction.

We are continuing to look at it as a fallback technology, the same thing that Congressman AuCoin was talking to us about. If we run into unexpected problems, we have something else we can look at. That work is ongoing now.

Mr. YOUNG. I am wondering if you might want to take a look at it in replacing what you are doing at Johnston Island. I may have been carried away with how impressive the demonstration was, but I have to tell you, it was impressive.

Secretary STONE. I will look at cryofracture. If I can come up with impressive technology at Johnston Island, maybe you can look at that, too.

I am all for having redundant technologies but as I told the Chairman, and I say again for the record here, we can't afford to have redundancy in all of our technologies. We would like to be able to do that, and we are doing it in this case. Because it is such a delicate matter, it has so much risk attached to it, we really need to have a solution. I think that was your term.

Mr. YOUNG. My understanding was that this system essentially could be mobile, that it could be transported to a site.

Let's say, for example, if we got into some kind of agreement with the Soviets to destroy theirs, destroy ours or portions of them, that we could volunteer to destroy theirs for them by placing the system somewhere in their vicinity and doing it without compromising any of their secrets because you take the whole thing and you put it in the system and it is gone.

Secretary STONE. I myself have talked to the Russians about that off the record because I have not been authorized to negotiate anything of that sort officially. I had a chance to meet a Russian marshal who went on duty in 1941 and is still on active service with the Russian forces. I talked to him about this. We were talking about the need to get rid of these weapons. He said, "I would be delighted to use your technology because we are behind in our country." I think as we become firmer in our ability to offer proven technology, if Mr. Cheney wants us to do that and it is the direction we want to follow, we could certainly try to do that.

One of the limitations of the cryofracture technology today, as we understand, is that it will not deal with the entire range of weapons that we have to deal with. Whether that will be substantiated in this research work we are doing, I don't know. That is what the National Academy of Sciences told us about cryofracture. We are looking at it.

Mr. YOUNG. I am glad you are looking at it because I was really impressed with it.

MILITARY PERSONNEL REPROGRAMMING

Mr. MURTHA. I want to give you some advice I also gave to the Secretary of the Air Force. When you send reprogrammings up here, if you include congressional interest items as a source of funds, you are going to have a hard time getting them through. I would hope you consider the fact that we came to an agreement after a lot of compromise last year.

This Committee feels very strongly that it would not react favorably when you defer or reprogram programs that the Congress added.

Mr. DICKS. Mr. Chairman?

Mr. MURTHA. Yes, Mr. Dicks?

Secretary STONE. While Mr. Dicks is getting a bullet together for General Vuono and me, if I could make a couple of comments on that point, because it is obviously a matter of great importance to you.

I want to emphasize it is of great importance to us. We did offer a reprogramming action to you based on the personnel cut that we will have to assume in the Army as a result of Gramm-Rudman-Hollings sequestration of last year. I think it was $232 million that we have asked to have reprogrammed. If we can't get that reprogramming, and I understand the point you are making, there are going to be several adverse consequences for the Army.

One is we are going to have to try to do this shave-down of the force more quickly than the Chief and I want to do it. That will be a real anguish for us.

The second factor, of course, is we, if you don't accept what we send over, will try to come up with something else. That is going to be very painful as well.

We tried to target it. Well over half of the amount of one of the biggest bill payers that we have in fact, was in an ammunition plant which, under today's threat conditions, we don't feel we need. We are trying to call it as we see it.

Mr. MURTHA. We appreciate that. When we come to an agreement with you, we don't like to see parts of the agreement taken away. As you send these over, our staff will be glad to work with your staff and get an expeditious resolution. We understand the importance of personnel reprogramming. If you will take a look and talk to our staff, we will see what we can do.

Secretary STONE. Thank you very much.

General VUONO. Mr. Chairman, I can't stress enough what the Secretary said about that reprogramming in terms of what it means to us. In a word, it is quality. If we don't get it, we will have to cut way back on promotions for officers and enlisted in the force. We will probably have to do an involuntary release of NCOs.

One of the things we are trying to protect in the Army as we reshape it is the quality of the Total Force, to include the career content. There is uncertainty in our career force. They, on the other hand, who know this program are saying, "We are with you in terms of reducing the structure and protecting those imperatives that got us where we are." On the other hand, they say, "We hope you can pull it off."

If we can't demonstrate we can pull it off, and as you know, I am always straightforward with you, we are going to fracture the force. It will start with the career force.

That is why this reprogramming—I know very well the caution you gave us—is so important to us.

Mr. MURTHA. We want to help you.

Improved Recovery Vehicle

Mr. Dicks. Last year's Appropriations Act required the Secretary of the Army to complete technical and operational testing and acquirements for the technical package the improved recovery vehicle, M88A2.

How is the Army complying with this requirement?

General Pihl. We are going to finish the test of the five vehicles, sir.

Mr. Dicks. What are the current milestones for finishing that?

General Pihl. Can I submit that for the record?

Mr. Dicks. Yes.

[The information follows:]

Current milestones are as follows:
Request for Proposal released by the Army, May 1990
Contract award, September 1990
Begin baseline testing, January 1991
Begin performance, reliability and operational testing, March 1991
Complete testing, November 1991
Complete test data evaluation and test report/Decision on technical data package, January 1992

Secretary Stone. We are complying with your direction.

Mr. Dicks. The conference report directed the government to report by March 31 on the nature and extent of deficiencies in the current approved practices and procedures for recovery of armored vehicles. The report is to include a long-range program and budget plan for addressing these deficiencies. What is the status of that report? What can you tell us about what it will say?

Secretary Stone. My own knowledge of the report is that it is in preparation now and it will be submitted on time.

General Pihl. Yes, sir, that is correct.

Secretary Stone. In terms of interim findings, I am not aware of any at this point.

General Pihl. That is correct.

Military Personnel Reprogramming

Mr. Dicks. Let me ask you on the reprogramming, how much is the overall reprogramming the Army is requesting?

General Vuono. $232 million. That is for the Military Personnel, Army.

Mr. Dicks. What are the sources of that reprogramming?

General Freitag. Reprogramming for militray personnel is from procurement dollars. They are the biggest piece of that.

Mr. Dicks. Thank you, Mr. Chairman.

Mr Murtha. Any other questions?

Mr. AuCoin. Just one, Mr. Chairman.

Mr. Murtha. Mr. AuCoin.

Follow-on to Lance

Mr. AuCoin. I just want to ask a couple of questions on the follow-on to Lance. What is the request for the FOTL, Follow-on to Lance program?

General Pihl. It is $112.2 million in 1991, R&D.

Mr. AuCoin. What do you make of the fact that an aide to the West German Foreign Minister, Mr. Genscher said that the modernization of Lance "makes us laugh. It is not feasible."

General Vuono. I think, Mr. AuCoin, that he is obviously talking about deployability of Follow-on to Lance. I am talking about our development proposal which is based on a requirement for that system which I think is different. It is based on the Theater Commander's needs. He says he needs a Follow-on to Lance. It is part of our flexible response for a surface-to-surface nuclear capability. We provide that with Lance.

I think deployment and requirements have to be dealt with separately. I am mindful of the political situation regarding that right now.

Mr. AuCoin. If the West German Government doesn't agree to place it on the soil, is it deployable?

General Vuono. I think we ought to continue the R&D because I think it is a system and a technology that we need. Even if we can not deploy it, that decision is made in 1992.

I would hate to see the program stopped now.

Mr. AuCoin. If the West German Government takes the position that it won't accept it, then it is not deployable; is that correct?

General Vuono. Lance is a readily deployable system. We won't deploy it to Europe, that is right.

Mr. AuCoin. You spoke of requirements. Is there a requirement for a nondeployable missile?

General Vuono. There is a requirement for a system to replace the Lance. That requirement is not just in NATO.

Mr. AuCoin. Where else would it be?

General Vuono. I believe it has applicability elsewhere, not in great numbers, but it is a system, it is a capability that I believe the United States ought to continue to pursue through research and development.

Mr. AuCoin. Is there any country at this point that has agreed to accept the Lance in the European theater?

General Vuono. I am not aware of us polling any other country. I just don't know. I know the public response of our German friends.

Mr. AuCoin. If it were not in Germany, where in Europe would it be effective against the perceived threat?

General Vuono. It is obviously a system we would deploy in Germany.

General Pihl. ———. It is the Follow-on to Lance that is being developed.

Mr. AuCoin. Germany is in place and Germany doesn't want it. We are in a budget environment in which we are looking for savings. I would have to make the observation that is one of the areas where we might find some savings.

Thank you, Mr. Chairman.

Mr. Murtha. The committee thanks you very much, gentlemen.

General Vuono. Sir, could I just thank the committee. Last year we came over and asked for a program to assist us in our recruiting efforts, the Army College Fund. We asked it for noncombat arms soldiers. You agreed to that in the two-plus-two-plus four test which is ongoing right now. I just want to thank you, Mr. Chair-

man and Members of the Committee, for giving us the opportunity to do that because it has been, we don't have all the results in right now, but it has been very successful to our quality recruiting last year and so far this year. Our quality so far this year has been absolutely outstanding.

As you recall, a year ago we were concerned that our Category IV was going to rise above our standard. I am happy to report that we are doing very well on that.

I thank you very much.

Mr. MURTHA. Mr. Secretary, I just want to say the staff tells me that the Army sent over the best reprogramming for military personnel. It was from spares. We are looking into the spares situation.

If the Committee agrees, we will approve that as quickly as we can.

Mr. Dicks?

MILITARY PERSONNEL

Mr. DICKS. How many people will be coming into the Army this year?

General VUONO. This year 94,600.

Mr. DICKS. What about the people? When you have these reductions, do people get moved around to new units first, assuming you need them?

General VUONO. We try first to reassign them within the post so we can save the cost of moving soldiers. We are able to do that with the majority of the forces, particularly the lower enlisted ranks. Sometimes the officers and the noncommissioned officers we have to reassign outside.

Mr. DICKS. You are still going to bring in 90,000 new people?

General VUONO. We have cut back on our accessions to account for the reductions that we are taking in 1991.

Mr. DICKS. What was it originally supposed to be?

General VUONO. About 119,000.

Mr. MURTHA. You are also, I assume, going to reduce the number of people going to Europe and see that, some people are extended, some flexibility, so we don't send somebody over and bring them right back?

General VUONO. We will. That is why it is very important that we take down the force structure at the same time. Otherwise, you end up with undermanned units.

Mr. DICKS. Does every unit have to be at the top level of readiness? I mean, do you have certain units like the 82d Airborne and maybe several divisions, the ones that would be used the most, at a higher level of readiness than, say, a division that may not have those same responsibilities?

General VUONO. We have that now. All of our units are not at the same exact level of readiness. If you are referring to the so-called term tiered readiness, I am opposed to that. I am opposed to it from a readiness standpoint and I am opposed to it from a quality standpoint.

Quality soldiers do not want to be in a unit that is not doing the kinds of things that reflect their readiness rate.

Mr. DICKS. Thank you.

Mr. MURTHA. We will have other questions for the record. The committee stands adjourned until 10:00 o'clock tomorrow. Thank you, Gentlemen.

[CLERK'S NOTE.—Questions submitted by Mr. Dicks and the answers thereto follow:]

BASE REALIGNMENT IMPACTS ON FORT LEWIS

Question. The Army's plans for base realignment and closure include inactivation of the 9th Infantry Division (ID) Motorized (MTZ) at Ft. Lewis, Washington, and the movement of the 7th ID (Light) to Ft. Lewis from Ft. Ord, California. I would like to go through the justification of this proposal, how you plan to execute it, and what contingencies exist if the Congress does not fully agree with the plan.

First, describe the reasons that the 9th ID (MTZ) was selected to be one of the two divisions proposed for inactivation.

Answer. The 9th ID (MTZ) was selected to be one of the two divisions proposed for inactivation, and factors taken into consideration in downsizing the 9th ID (MTZ) to a motorized brigade are:

9th ID (MTZ) is a late deployer to NATO. Reduced threat in NATO enables reduction of the 9th ID (MTZ) with minimal warfight risk.

As a warfight augmentation unit to other regional plans, the 9th ID (MTZ) can be replaced by more capable reinforcing and contingency divisions.

9th ID (MTZ) is the least preferred division for ad hoc contingency corps (preferred: 82nd, 24th, 101st, 7th).

Division has already been cut by one brigade in FY89.

RC roundout is mechanized, not motorized.

Division requires modernization.

It is a unique one-of-a-kind division which creates complexities in procuring equipment.

Due to technology problems and budget cuts, the Division never achieved its objective design.

Primary considerations taken into account in determining the proposed realignment of the 7th ID (Light) (L) to Ft. Lewis from Ft. Ord, CA, are:

Deployability and OPSEC. In contingency operations the 7th ID (L) would be able to deploy from Ft. Lewis's contiguous airfield (McChord AFB) and not have to travel to a commercial airport (Monterey) or to Travis AFB—150 miles north. Ft. Lewis has three major, instrumented airfields (two military and one civilian) in its immediate area. The "next-door" capability will enhance the division's ability to deploy quickly and covertly when required.

Training. Ft. Lewis provides better training areas with its on-post facilities and Yakima Firing Center, Yakima, WA. Currently 7th ID (L) must travel to Hunter-Liggett to conduct brigade maneuver exercises and its arillery must use Camp Roberts, an Army National Guard post, to conduct live fire. Both functions can be done on main post at Ft. Lewis and are enhanced by Tacoma Military Training Area. Ft. Lewis, including Yakima, has 348,000 acres of

training areas compared to 171,400 acres for Ft. Ord and Hunter-Liggett.

Question. Was consideration given to deactivation or redeployment of the 6th Light Infantry Division in Alaska?

Answer. Consideration was not given to deactivation or redeployment of the 6th Light Infanty Division. Based upon strategic planning and analysis, the Army's role as a strategic ground force requires a core land force commitment to the Pacific consisting of a deterrent forward-deployed force in Korea, a tailored division in Alaska, and a division in Hawaii to provide theater-wide flexibility in global conflict. Lighter forces, for early deployments are required because of their superior mobility in that vast Pacific theater.

The 6th Light Infantry Division has both a global and regional focus. It is required for defense in a global war scenario and as the Army becomes smaller, it will play a larger regional role in the Pacific because of its deployability. So far in our planning, we are still able to afford that division for those missions.

Question. What are your current plans for this division?

Answer. Current Army plans are to retain this division in its present configuration of two active component infantry brigades with four active component infantry battalions and one Army National Guard infantry battalion rounded out by the 205th Separate Light Infantry Brigade, (United States Army Reserve).

Fiscal Year 1990 appropriation language for Military Personnel, Army requires activation of one additional active component infantry battalion for this division. However, at the time the language was written, the Army was not undergoing strength reductions, nor were major force reductions foreseen. To stand up a new unit in a remote geographic region while simultaneously reducing units and sizeable numbers of soldiers elsewhere is not feasible. I have submitted a request to Department of Defense to propose this language be rescinded.

Question. What is the timetable for inactivation of the 9th Infantry Division (ID) Motorized (MTZ)? What would be the impact if the direction were provided not to begin inactivation until a full review of all proposed closures and realignments was made by an independent commission, as proposed by Chairman Aspin and others?

Answer. The timetable for inactivating the 9th ID (MTZ) (approximately 11,900 spaces) and downsizing it to a motorized brigade of approximately 3,900 spaces is:

FY 1990: Approximately 2,900 Spaces.

FY 1991: Approximately 3,100 Spaces.

FY 1992: Approximately 2,000 Spaces.

Current budgetary and program reductions require the Army to reduce its force structure 36,500 spaces in FY 1990/91. To meet these force reduction goals, the Army plans to cut approximately 8,000 spaces of the 9th ID (MTZ) an organization of approximately 11,900 spaces. The remaining spaces of approximately 3,900 will be utilized to structure a motorized brigade. The 9th ID (MTZ) was selected as one of the organizations to be cut due to its being a late deployer to NATO, not modernized and a least likely division for ADHOC contingency corps.

Bottom line, not cutting spaces from the 9th ID (MTZ) would result in cutting spaces from a more capable/modernized reinforcing and contingency division.

Question. As I understand it, one motorized brigade of the 9th would be retained at Ft. Lewis. What would be the mission of this brigade and how would it fit into anticipated Army requirements for the future? Is any consideration being given to reconfiguring any additional brigades to a motorized status?

Answer. Maintaining a motorized brigade will retain the motorized concept for continued evaluation and provide a robust combat ready unit for use in contingency and reinforcing missions.

Maintaining a motorized brigade would retain the valuable lessons learned from the motorized experience. This would insure expansibility by maintaining a motorized force at moderate levels capable of serving as the base for creation of like units should the tactical necessity warrant.

Currently there are no considerations being given to reconfigure any additional brigades to a motorized status.

Question. Would selection of the 9th Division be impacted if it became apparent that the Congress would not approve the transfer of the 7th Division from Ft. Ord?

Answer. No. The PBD process required the Army to reduce its force structure 36,500 spaces in FY 1990-91. To meet these force reduction goals the Army plans to down size the 194SAB, convert the 9MTZ Division to a separate motorized brigade, and inactivate the 2AD.

The 9th Division is a last deployer to NATO—not M + 10 force—and the reduced threat in NATO enables reduction of the 9th with minimal warfight risk. As a warfight augmentation unit to other regional plans, the 9th can be replaced by more capable reinforcing and contingency divisions. The 9th also is the least preferred division for ad hoc contingency corps (preferred: 82nd, 24th, 101st, 7th). Additionally the division has already been cut by one brigade in FY 1989.

The 9th is a unique one-of-a-kind division which creates complexities in procuring equipment since the division requires modernization. Due to technology problems and budget cuts, the 9th never achieved its objective design. Downsizing to a brigade will retain the motorized concept for continued evaluation and provide a robust combat ready unit for use in contingency and reinforcing missions.

Reduction of the 9th to a brigade will not be affected by changes in location of the 7th Division. However, if Ft. Ord is not closed, associated savings over the course of the POM would have to be found elsewhere. Movement of the 7th to Ft. Lewis and closing Ft. Ord would result in a much more efficient match: an essential division at a superior post.

Question. Is the Army committed to stationing an active division at Ft. Lewis in any reasonable configuration of divisions that emerges from force structure changes now being developed? What advantages does Ft. Lewis provide that make it a prime location for stationing a division?

Answer. Yes, current Army proposals call for the downsize of the 9th Infantry Division to a motorized brigade of approximately 3,900

troops. Also proposed is the move of the 7th Infantry Division, currently located at Ft. Ord, California to Ft. Lewis. Pending favorable outcome of Environmental Impact Studies, these proposals would place a full-up Light Infantry Division plus the motorized brigade at Ft. Lewis in FY 1993. Ft. Lewis has excellent deployment capabilities from McChord AFB and offers outstanding training facilities and close-in training areas for up to battalion level operations. Mountain and snow training facilities are within easy access of Ft. Lewis and Yakima Firing Center in central Washington which offer over 235,000 acres of maneuver and training area and expanded weapons firing ranges. The availability of Madigan Army Medical Center on-post offers easily accessible medical care for Ft. Lewis soldiers and their families.

Question. The environmental review process has begun on proposals to transfer the 7th Division from Ft. Ord. What is the schedule for this process? What legislative relief is needed to achieve this schedule?

When will a final decision on the proposal be made?

Is the Army working with the local community to identify potential alternative uses for the base area?

Answer. A notice of intent to prepare an environmental impact statement (EIA) on the closing of Fort Ord and relocation of the 7th Infantry Division was published in the FEDERAL REGISTER on February 14, 1990. The Army will conduct a scoping meeting on or near the installation. As soon as a date is established, it will be published in local newspapers which serve the population near Fort Ord. The Army expects to complete the EIS by January, 1992. The proposed closure of Fort Ord is planned over several years, beginning with the movement of one brigade in FY92. Other brigades and the division headquarters will move in FY93.

At this time, no legislative relief is needed to achieve this schedule. However, the Secretary of Defense recently introduced proposed legislation to streamline the procedures for closing unneeded military installations. This will expedite the procedures required by the National Environmental Policy Act and section 2687 of title 10, United States Code.

A final decision on the proposal will be made upon completion and evaluation of environmental, economic and military assessments.

The EIS will address alternative uses of the installation. The Army plans to work with the local community on this matter. The Army has asked the Department of Defense's Office of Economic Adjustment (OEA) to assist the communities surrounding Fort Ord in identifying alternate uses. OEA provides technical assistance to communities facing the closure of an installation by helping them through the three phases of organizing, planning and implementation.

Question. What shortcomings does Ft. Ord have that led to the decision to transfer the 7th Division from it.

Answer. The move of the 7th Infantry Division from Ft. Ord to Ft. Lewis is a proposal and is dependent upon the outcome of Environmental Impact Studies. Ft. Ord offers no close-in maneuver training areas for battalion level operations. Units must deploy to Ft. Hunter-Liggett (2.5 Hr road march) to conduct battalion level

maneuver training. Deployment operations out of Ft. Ord must be conducted at a commercial airport (Monterey) or Travis AFB-150 miles north. Cost of living is high on the Monterey Peninsula (average monthly VHA for Monterey is $315.55 while Tacoma is $41.34). The local Median Housing Cost per month for an SSG with dependents at Ft. Ord is $821.53 while at Ft. Lewis it is $568.18. Soldiers and their families must travel from Ft. Ord to Presidio of San Francisco for specialized medical care.

Question. The Army's proposal is to move the 7th Infantry Division (ID) Light (L) by unit to Ft. Lewis rather than simply reassigning personnel in place to accomplish this transfer. Why did the Army decide to proceed in this manner?

Has it been done in the recent past?

What is the cost estimate of such a movement compared with simply reflagging?

Answer. The force structure (Military Occupation Specialities (MOS) and Equipment) differ between a motorized division (9th ID Motorized (MTZ) and a light division (7th ID (L).

To convert a division from one force structure to another (reassign personnel in place) and eventually make it combat ready/deployable normally takes approximately 18 to 24 months if equipment is readily available. The transition period involves getting MOS qualified, getting required equipment shipped, training/qualifing the personnel with their equipment, and then evaluating/certifying units in combat field tactical exercises.

Therefore, the Army's proposal to move the 7th ID (L) by unit to Ft. Lewis (begin FY92—end FY93) rather than reassign personnel in place (reflagging) at Ft. Lewis will maintain the division in a high readiness status and deployable posture.

Another factor in keeping the 7th ID (L) as a ready deployable organization is that it is part of the contingency corps, which provides immediate flexibility and responsiveness to the National Command Authority. It is rapidly deployable to any crisis area throughout the world as demonstrated during "Operation JUST CAUSE."

Current Army analysis indicates an increasing need for an Army with enhanced global flexibility. Such an Army evolving from a NATO orientation will also protect our interests in the Pacific Basin. It will be positioned to better meet the more likely mid-to-low intensity threats. Our studies indicate that light divisions are essential for enhanced global flexibility to maintain the Army-as a strategic force.

Moving or reflagging a division or an organization of the size of 7th ID (L) has not been done in the recent past. In FY89 a brigade of the 10th Mountain Division located at Ft. Benning, GA, was transferred in total (personnel, families and equipment) to Ft. Drum, NY, the home of the Mountain Division. The move was accomplished in a very efficient manner with minimal turbulence.

The cost comparisons of moving the 7th ID (L) to Ft. Lewis, WA, from Ft. Ord. CA, versus simply reflagging the 9th ID (MTZ) are: Movement—Approximately $70 million; Reflagging—Approximately $52 million.

In summary, it will cost approximately $18 million more to move the 7th ID (L) to Ft. Lewis as opposed to reflagging the 9th ID (MTZ).

However, the Army's position is that the increased cost ($18 million) is worth the benefit of maintaining the 7th ID (L) in high readiness status and deployable posture.

FORCE STRUCTURE CHANGES

Question. The Army has developed a plan for reducing its force structure over the next several years by a total of 135,000. Could you discuss this plan and what the force structure would look like after it was completed in terms of numbers and types of divisions as well as what would remain forward deployed?

Answer. The Army plans to reshape its force structure to accommodate significant changes in the strategic environment. The restructured Army must be fully trained and ready to address the full range of global threats. Our commitment to NATO will remain central, however, increased warning time will enable us to reposture the Army to be less forward deployed with CONUS based forces focused not only on reinforcing NATO but also on worldwide contingency missions. CONUS based forces will consist of light, heavy and special operations forces capable of projecting power and fighting on short notice. The challenge is to prepare to deter or fight a future conflict for which the scenario/threat may be unclear.

Addressing the challenges of the future will require a re-shaping of the Army. The Army's plan focuses on a prudently reduced CONUS force structure capable of responding to reinforcing forward deployed forces and contingencies as required. Therefore, the Army end state must be a balance of forward deployed, contingency, and reinforcing forces appropriate to our national military strategy. Reductions will be distributed between Active and Reserve forces based on warfighting requirements. In the end state we require an Army with four corps and 23 divisions of which two divisions and one corps will remain forward deployed in Europe and one division in Korea.

Question. Did the President's announcement of a total force level of 195,000 in Central Europe, and subsequent Soviet agreement in principle to this figure have an impact on your planning?

Answer. Yes, but these impacts are generally consistent with the development of the Army force structure "vision" for the 1990s. Army force reductions required to meet this level will still allow the maintenance of a lethal and viable deterrent force forward deployed in Europe. The real concern with these personnel and equipment reductions is that they be managed carefully, taking into account the evolving threat; the need to reduce personnel turbulence; and maintenance of the NATO Alliance.

Question. Some have suggested that U.S. forces in Europe will in fact be reduced to 100,000 or 50,000 before the end of the decade. If this came to pass, what options would the Army consider in terms of force structure?

Answer. Currently tabled Conventional Armed Forces in Europe cuts reduce U.S. forces in the European Theater to 225,000 with a floor of 195,000 in the Central Region. Due to the uncertainties of the evolving threat, the minimum credible U.S. operational presence possible in Europe essential to collective defense and alliance

linkage remains at least one corps. The CINCs, CJCS and the Army Staff are still working the problem but whatever force remains must be self-sufficient and not reliant upon reinforcement for self-defense. With an Army/Air Force ETS ceiling of less than 225,000, it will be difficult to maintain a force with these capabilities without rethinking the NATO strategy and re-evaluating overall U.S. strategy.

Question. What is the current status of retaining pre-positioned equipment in Europe under the Conventional Armed Forces in Europe negotiations.

Answer. Treaty limited equipment held at designated storage sites, which includes both POMCUS and war reserve stocks, will be counted in the overall ceilings. Subceilings on the amount of treaty limited equipment held in active units were designed to ensure that the United States would retain storage in Europe sufficient to permit us to meet our current commitments to reinforce NATO in times of crisis.

Question. In your force structure plans what assumptions are made about forward deployments in the Pacific, particularly in Korea?

Answer. The Pacific is already an economy of force theater. The three divisions in theater (the one in Alaska has 2 AC Brigades with one RC round-out) are considered the minimum necessary for the CINC to conduct his peace time missions. The current force mix is structured based on the following assumptions:

Deter aggression throughout the AOR.

Demonstrate US commitment to the US-ROK Mutual Defense Treaty.

Provide an initial direct defense capability in cooperation with ROK.

Demonstrate US commitment to the US-Japan Mutual Defense Treaty.

Provide the CINC with a centrally located, rapidly deployable theater reserve.

Position a force in that part of US closest to Soviet landmass and astride the vital airways to our industrial heartland (Alaska).

Participate in over 30 nation-to-nation programs.

The mix of forces developed from these assumptions/requirements provides a medium heavy force in Korea where the threat of mid-intensity conflict is greatest; a centrally located light division in Hawaii allowing rapid reinforcement of Korea, Japan or other areas where low intensity conflict is likely; and a tailored, light, and mobile force to defend Alaska or for regional/global employment.

The US must continue to support its security commitment to the Republic of Korea based on our mutual defense treaty. US ground force presence deters conflict on the Korean peninsula and contributes to stability throughout the region. Regional peace and stability provide a basis for continued political and economic development in Korea as well as other countries in the region. Currently proposed reductions of 5,300 military personnel in Korea will be accomplished while ensuring a viable U.S. deterrent force remains forward deployed in theater.

Question. The current plan is based on assumptions of 2% negative real growth over the five year planning period. If funding did not achieve that level, and for instance went to a 5% annual negative real growth path, what additional force structure changes might be considered by the Army?

Answer. Based upon current threat assessments and fiscal realities, we believe an Army, centered around 23 appropriately structured divisions and 4 Corps, is adequate to fulfill the Army's role as a strategic force. Present plans addressing a 2% negative real growth bring the Army down to this 23 division, 4 Corps force. Recent OSD guidance requires us to look at reducing these numbers and the Army Staff is currently wrestling with this problem and is putting together options to present to the senior Army leadership.

To rationally implement force structure cuts the Army must eliminate major structure and proportional CS and CSS associated with it. Reducing major force structure to the 23 division level was the best way to preserve the essential quality of the residual force.

Force structure cuts beyond those presently planned will be extremely painful and impact on the ability of the Army to do its strategic mission. Personnel cuts beyond 35,000 per year or beyond 135,000 total will create a situation where many motivated, highly qualified officers and soldiers will be forced to leave the service unwillingly, with attendant adverse morale implications on the total force. A comparable reduction of over 50,000 productive civilian employees will be made. Deeper cuts will have a similar adverse effect on the force and will not be easily reversible. America's Army of the 1990s must be shaped rationally to respond to the requirements of the Nation and to reflect the will of the people.

Question. To what extent have force structure plans been coordinated with tactics and doctrine changes that might take place as a result of a focus away from Europe to other contingencies? Does AirLand Battle continue to be the primary driving force in determining force configurations despite the reduced likelihood of a major Soviet assault in Europe?

Answer. The Army is looking ahead to the mid 1990's to determine the doctrine that will be necessary for its organizations to execute its global missions. The AirLand Battle-Future Concept is being developed to portray how the Army will conduct joint and combined operations from the tactical (battlefield) to the operational (theater) levels. This concept, which is evolutionary from our present AirLand Battle Concept, will guide Army doctrine, training, organization, materiel and leader development. It will be less Eurocentric and will provide a balance between forward deployed and contingency forces capable of global employment.

[CLERK'S NOTE.—End of questions submitted by Mr. Dicks. Questions submitted by Mr. AuCoin and the answers thereto follow:]

UMATILLA ARMY DEPOT

Question. As you know Mr. Secretary, Umatilla Army Depot, the only active military base in the State of Oregon, is involved in realignment and clean-up procedures. I have been a big supporter of both the Defense environmental restoration and the chemical de-

militarization accounts and will continue to work for full funding here on the appropriations side.

Umatilla and Morrow Counties want to begin the planning process for the ultimate closure, after TOTAL cleanup of the base. What technical and financial assistance does DOD have to provide to these communities?

Answer. Technical assistance for communities facing a closure situation is provided by the Department of Defense's Office of Economic Adjustment (OEA). This office helps the communities walk through the three phases of organizing, planning, and implementation. Small community planning assistance grants are available where the situation warrants from OEA.

Question. Is Oregon assured TOTAL cleanup of all wastes, in all areas of the Depot, no matter who obtains interim or final use?

Answer. The Defense Secretary's Commission on Base Realignment and Closure recommended Umatilla for realignment to the maximum extent possible in order to facilitate closure of the installation. Because the chemical demilitarization operations there are scheduled to end in FY 1997 (Dec 96) cleanup of Umatilla cannot be accomplished until that date. The Army is committed to the cleanup of environmental contamination at Umatilla in a manner that is fully protective of human health and the environment. All hazardous substances will be remediated under provisions of Superfund to meet applicable or relevant cleanup standards. All imminent threats to life, health or safety will be removed, contained or eliminated in accordance with applicable health or environmental standards. Cleanup required will be accomplished with Defense resources. Studies are ongoing to determine the extent of contamination, remedial action and resource requirements.

Question. Does that include the Oregon National Guard?

Answer. Use by the Oregon National Guard could effect the level of cleanup depending upon the uses they would anticipate.

[CLERK'S NOTE.—End of questions submitted by Mr. AuCoin. Questions submitted by Mr. McDade and the answers thereto follow:]

SACRAMENTO ARMY DEPOT

Question. Mr. Secretary, I have a number of questions dealing with the Army's proposed base closures and realignment which were announced on January 29, 1990.

Among the recommended base closures is the Sacramento Army Depot.

Under current law, before an installation such as Sacramento Army Depot is closed there must be a series of "impact analyses" completed and submitted to Congress. What are the Army's plans and target dates for initiating and completing the required analyses needed to close the Sacramento Army Depot?

Answer. The closure of Sacramento Army Depot is still a proposal. The requirements of Title 10 U.S.C. directs notification of Congress and will be adhered to.

Target dates have not been determined.

Analyses will be done and submitted to Congress.

Question. The Army's announcement regarding the proposed closure of Sacramento Army Depot indicated that its "missions and functions" would be transferred to "depots with excess capacity." Identify those installations which would receive these missions and functions, and to the degree possible, quantify these transfers in terms of additional military and civilian manpower which would be transferred to these facilities. Also provide a schedule for these transfers assuming the Army's proposal to close the Sacramento Army Depot by FY 1992-93 goes through.

Answer. We plan to transfer functions to Tobyhanna, Anniston, Red River, Corpus Christi Army Depots and other locations if necessary. Manpower to be transferred to these facilities is still undergoing analysis although Tobyhanna is planned to assume the majority of the workload.

The majority of the spaces will transfer within the first year after congressional notification occurs. The remaining workload may require facility construction and its transition process will take approximately 2½ years.

Schedules for these proposed transfers are not yet available.

Question. Why was Sacramento picked for closure rather than other facilities with similar missions? If there is a delay in the proposed closure, or if Sacramento is not closed, would the Army consider transferring workload at this facility elsewhere in any event because of great efficiencies or cost savings? If so, why not?

Answer. Selection of Sacramento for closure was based primarily on a methodology for determining military worth (analogous) to the DOD Base Realignment and Closure (P.L. 100-526).

Of the three Army Depots with electronic capabilities, Lexington-Blue Grass Army Depot was already marked for closure, and Sacramento is smaller than Tobyhanna. There is therefore, less facilitization costs and personnel movement to close Sacramento and move the electronic mission to Tobyhanna Army Depot.

If there is a delay in the proposed closure, there would be no savings in transferring a portion of the workload elsewhere.

[CLERK'S NOTE.—End of questions submitted by Mr. McDade. Questions submitted for the record and the answers thereto follow:]

ARMY'S SHARE OF DEFENSE BUDGET

Question. In the January 22, 1990 edition of Stars and Stripes, there was an article titled "Services Slice Up Each Other Over Budget Pie". The article states in part, "The Navy and Air Force are at each other's throats. The Marine Corps is mounting a flank attack against the Army. The Army, traditionally above the fray, is fighting back." In addition, a retired Marine Corps major is quoted as saying that, "The Navy and the Air Force should be teamed together versus the Army". Mr. Secretary, do you think that the Army received a fair share of the pie from the fiscal year 1991 budget battle?

Answer. The Army went through a rigorous Program Budget Decision/Defense Management Review Decision process cycle and incurred reductions of $6.1 billion in total obligation authority (TOA). This amount represents a −7.4% change from the Budget Estimate Submission presented to OSD in September 1989. The Army accept-

ed the FY 1991 reduction in TOA to a level of $76.1 billion which equates to a 25.6% share of the DoD topline of $297.3 billion. We would have liked to receive more budget authority to fully fund environmental issues, recurring requirements in RPMA, and Base Operations but we are well cognizant of rapidly changing world conditions. The term "fair share of the budget pie" is somewhat misleading due to the different missions assigned to each of the Military Services and the fact the Army Budget is built to the demonstrated needs of the service, not to a budget portion. However, I note the Soviets appear to be scaling back all elements of their military, not just land forces. The importance of Army readiness was effectively demonstrated in Panama in the recently concluded and highly successful Operation Just Cause. Our primary objective is to maintain that same level of readiness and be prepared to fight whenever and wherever required.

Question. As further reductions are imposed on the fiscal year 1991 budget, what portion of those reductions should be taken by the Army?

Answer. We would hope that any additional reductions are carried out in a carefully thought out and equitable manner. This should include recognition of the significant cuts already allocated to the Army and resulting impacts on the overall defense strategy of the country. The Army, like the other services, must be able to project forces globally, as recently witnessed in Panama. A balanced defense requires a balanced sharing of resources among the services. We are currently working on the FY 1992–FY 1997 Program Objective Memorandum with the goal of maintaining the correct mix of forces, manned by quality soldiers, ably trained to fight with the most up-to-date equipment possible. The focus in all our budget efforts is to maintain superiority in equipment, tactics and personnel to meet any contingency, which threatens U.S. interests, anywhere in the world.

Managing Change in the Army

Question. Mr. Secretary, you are quoted as saying that the fiscal year 1991 budget will result in "very fundamental changes in the Army". You also stated that it was important to manage the change as effectively as possible. How do you intend to do that?

What major changes do you see taking place in the Army in the next few years?

You have used the term "zero-based management" to describe a questioning of fundamental management decisions that have been made in prior years. How have you used this process so far? Can you identify specific management decisions that you have changed?

Answer. a. The changes I have alluded to fall in three major categories which require special attention, two of which are being supervised very closely by Special Task Forces.

(1) The first of these falls under the auspices of the Defense Management Review (DMR) to which the Army is fully committed. In fact, under the Army subset of the DMR, the Army Management Review (AMR), we intend to go well beyond the requirements of the DMR in improving Army effectiveness and efficiency. Under the AMR we are evaluating the Army's role in and conduct of ac-

quisition practices, procedures, and related planning, personnel management, organizational design, and government/industry accountability. In conduct of this evaluation, care is being taken not to compromise essential warfighting capabilities and support needed to fulfill our current and projected worldwide role as a strategic deterrent to war. We are sensitive to the needs of our military and civilian personnel and their families and are seeking to minimize the disruption imposed upon them. The principles guiding our efforts are quality acquisition management; maximum effectiveness; improved acquisition planning; increased management accountability; disciplined acquisition process; and improved environment for our military and civilian workforce. The Army Management Review Task Force was created specifically to manage this effort.

(2) The second major management challenge is the Base Realignments and Closures required under Public Law 100-526, The Base Closure Act. This effort involves the realignment of activities between 133 installations and affects approximately 30,000 of our military and civilian personnel. I have created the Base Realignment and Closure Office under my Director of Management to exercise oversight of this effort.

(3) The final area involves management of changes to the Army force structure dictated by the level of FY 1991 funding and changing world events. The initial stages of those changes were announced on 29 January by Secretary Cheney and involve not only reductions in active military spaces but the proposed closure/realignment of additional Army installations in the Continental United States. The inactivation of selected units will progress rather rapidly under the management of the respective Major Commands and should be well underway this fiscal year. Associated base closures and realignments, however, will progress somewhat more slowly due to statutory and Congressional requirements. Major efforts in this arena are focused on conduct of the Environmental analyses and evaluations required in accordance with Title 10 USC 2687 for each of the cited installations. I would add that this effort is perhaps our most challenging as we lay the groundwork for a fundamental restructuring of the Army over the next several years to cope with a changing threat, austere fiscal reality and the need to maintain a credible, ready deterrent. Much more will be done in this area in the months ahead as we continue to review options and finalize Army plans.

b. It would be inappropriate to comment on specific changes I envision for the Army over the next few years since much remains to be done in completing our reviews and making decisions. There will be some fundamental changes occurring in the manner in which we go about our business as the results of the DMR and AMR are implemented and come to fruition. Likewise, there will be significant changes yet to come in the structure of the Active and Reserve forces as we come to grips with the changing world environment and threat evolution. Each of these major areas of transition will in turn impact Army infrasturcture as we work to control the fixed costs of housing and supporting the end-state forces.

c. In my use of the term "zero-based management" I am referring merely to the "No stone unturned" approach we are taking to reviewing the Army structure, management practices and infrastructure requirements to build the most effective and efficient forces for the resources available. In that regard, there are no specific management decisions which I have changed but we are looking very hard at how we can do things better and smarter in the future.

READINESS

Question. The Army's request for OPTEMPO is at the fiscal year 1990 level, which is at 800 tank miles. During fiscal year 1989 the OPTEMPO was at 850 miles. Is there a significant difference between 800 and 850 tank miles? What is the reason for reducing the Army's OPTEMPO?

Answer. An OPTEMPO mileage figure exists for all vehicles within a type unit. The 800 mile figure represents a programmed funding level necessary to sustain a stated level of readiness. There is a strong correlation between readiness, as reported in the USR, and executed annual mileage; a decrease in OPTEMPO funding will be met by an increase in the number of units reporting readiness below ALO (Authorized Level of Organization).

A decrease in OPTEMPO from 850 to 800 miles will cause units to adjust their training strategy by eliminating or scaling back training events. The 800 mile level is also the lowest programming level were units can be expected to maintain a C1 level of readiness.

Question. How will the termination of the weapon systems, such as the M1 tank, the Apache helicopter, and the AHIP affect the readiness of the Army?

Answer. Terminating weapon systems can affect both readiness and capability. Readiness is affected when the termination of a weapon system either forces us to field the system to units at levels less than the required/authorized amount or forces us to keep older systems fielded that were to be replaced by the terminated system. Compatibility will be affected by the fact that a less capable older system will remain fielded when there is an early termination of a weapon system program.

We believe that we have taken the appropriate steps to reduce the impact of early termination of weapon systems on the readiness and capability of the Army. This will reduce the near term risk to as low a level as possible. The termination of these programs will assist us in minimizing the mid and long term risk by allowing us to proceed with the Block III tank and Light Helicopter programs.

Question. Has the Army adequately funded military personnel and operation and maintenance programs in the outyears to keep the quality of our troops at a high level and properly trained and the equipment maintained?

Answer. Yes, based on the effective utilization of the resources allocated to the Army as it transitions to a smaller, capable force. The personnel and equipment reductions will be managed carefully, taking into account the evolving threat; the need to reduce per-

sonnel turbulence; and maintaining a deployable, versatile, and lethal force. Force structure is being reduced in a way to ensure that hollow units and diminished readiness will not occur. Maintaining a quality, ready force in a smaller, capable Army is dependent on not eliminating more than 35,000 personnel from the active end strength a year; otherwise, the quality, readiness, and morale of the force will suffer. Operation and maintenance has been resourced to provide tough, realistic training (OPTEMPO resourced to 800 miles and 14.5 flying hours and Combat Training Centers resourced to provide enhanced realism) and the sustainment base has been modernized.

Question. Which readiness items (training, maintenance, modernization, etc.) are crucial and must be funded at proper levels in fiscal year 1991?

Answer. All readiness items are crucial and must be funded. The Army, as it transitions to a smaller, capable force, has prioritized its resources as follows:

Maintain the quality and readiness of the force.

Ensure that the end state is sustainable.

Protect the modernization of the future force.

Rationally evolve the force into a smaller, but more versatile, deployable, and lethal Army.

Based on these priorities, near term readiness must be protected by funding OPTEMPO at 800 miles and 14.5 flying hours and the continued funding of the Combat Training Centers Master Plan. This will provide the Army with tough, realistic training and assures the Army's warfighting capability. The other items should be resourced fully in priority as funds become available.

Question. Are there any areas in military personnel and operation and maintenance that can be reduced in fiscal year 1991 without adversely affecting readiness due to changing conditions?

Answer. No. The 1991 budget maintains quality and readiness through adequate funding for recruiting and retention programs, operational tempo, Combat Training Centers, and quality of life initiatives. The fiscal year 1991 budget will provide for 16,700 fewer Active Component soldiers than we had in 1990. It should also be noted that the current fiscal year 1991 budget will provide for 12,042 fewer civilians than were contained in the original fiscal year 1991 budget reflected in the fiscal year 1991 column of the fiscal year 1990/1991 Bush Amended Budget submission. Further reductions to military personnel and operation and maintenance accounts would adversely affect both readiness and morale of the force. The fiscal year 1991 budget will provide for a Total Army that is versatile, deployable, lethal, and meets essential U.S. land force requirements

Troop Reductions

Question. The President in his State of the Union address indicated that he would propose a new limit on U.S. and Soviet troops deployed in Europe of 225,000. How many Army personnel will remain and how many will be withdrawn?

Answer. Currently tabled Conventional Armed Forces in Europe cuts reduce U.S. forces in the European Theater to 225,000 with

195,000 in the Central Region. Under this proposal, minimum Army levels have not been clearly determined due to the rapidly changing strategic environment, unknown effects of ongoing Soviet unilateral reductions, and ultimate CFE negotiations. NATO collective actions will ultimately determine minimum safe force levels.

U.S. forward deployed forces will continue to play a key role in implementation of NATO strategy (MC14/3). Currently, studies are ongoing to determine what U.S. requirements will be based upon the evolving threat, actions of non-U.S. NATO nations, and postulated results of CFE negotiations.

Question. Will there be a general reduction of the force as a result of the withdrawal?

Answer. It is reasonable and prudent to reduce Total Army force structure now in response to the declining Soviet threat and decreased availability of defense resources. The Army plan is to begin the reductions in CONUS to protect our arms control negotiating position and then reduce force structure OCONUS as the threat and treaty implementation dictates. This initial effort will leave the U.S. an Army which is lethal expansible, and deployable.

Question. Since you will be faced with reducing troop strengths overseas, are you considering extending tours of duty of troops overseas for short duty periods?

Answer. Based on overseas force structure reductions some soldiers' tours may have to be extended based on the effective date of unit inactivations or unit moves. If force structure reductions take effect during the soldiers' tour they may be curtailed and reassigned to the United States. Currently, some key personnel may be extended up to sixty days to support unit inactivations. We are examining the involuntary extension of soldiers in critical Military Occupational Specialty (MOS) up to six months in oversea areas to support unit inactivations based on the timing of force structure reductions. These will be small in number in order to inactivate the unit. Soldiers may also be provided the option to request reassignment within the theater providing requirements exist for their skills. Intra-theater reassignment of soldiers will be managed as replacements for soldiers who are scheduled to rotate to the United States. This will decrease the requirement to rotate soldiers from the United States to the overseas area and also decrease costs. Some soldiers may be required to have their tour curtailed. Recent assignment policy changes provided by the Office of the Secretary of Defense allow the Service Secretaries authority to curtail overseas tours when soldiers are involved in unit moves, inactivations, base closures or become surplus to the need of the unit. This allows the Army flexibility to ensure unit readiness and integrity, professional development for the soldier and equitable treatment of soldiers and families. In this review, the Army is seeking help from Congress in the form of temporary or permanent legislation (e.g., retirement waivers and separation pay changes) which will reinforce our capability to maintain readiness while keeping faith with soldiers and their families.

Question. Could overseas positions remain unfilled, be eliminated or consolidated which would require fewer military and civilian personnel to rotate overseas?

Answer. Overseas positions could, and do, remain unfilled. Our current personnel distribution policy calls for manning Europe at 96 percent of their Program Budget Guidance. Accordingly, soldier distribution will be managed to maintain unit readiness and integrity.

Regarding the elimination or consolidation of positions, the planning and execution of this is ongoing. Force structure reductions through the Program Objective Memorandum (POM) years are currently being evaluated.

Question. What other major force structure changes do you foresee taking place in the Army for the next several years?

Answer. Army plans call for an active end-strength reduction of 135,000 with equivalent reductions in force structure. Reductions will also likely be applied to Reserve Component units not doctrinally required to support the reduced active force; however we are awaiting the results of the Congresssionally-mandated Total Force Policy Study prior to finalizing our plans for Reserve Component reductions. Reductions assume successful CFE negotiations, increased warning time, decreased worldwide threat and relative world stability. Units to be eliminated are still being reviewed. Further reductions will only occur if strategic requirements and reduced resources so dictate. Under current plans, our future force structure will be fully capable. Additional budget driven force structure reductions will severely task the Army to fulfill its responsibilities to the Nation.

M1 TANK PROGRAM

Question. The budget proposes that fiscal year 1991 be the last year for M1 tank procurement funding. The budget funds procurement of 163 M1A1 tanks and 62 M1A2 tanks. Why are M1A2 tanks entering production if so few are to be produced?

Answer. When the tank production lines are laid away, they will be in a ready-to-produce configuration, which will support an M1A2 start-up if necessary in the mid-term. The M1A2 is a tank superior to the Future Soviet Tank (FST) II. This will give us the ability to produce M1A2s until Block III is at full rate production, providing a qualitative overmatch prior to the arrival of the FST III. A production quantity of 62 M1A2s is sufficient to prove the concept, verify the production line, and support user testing. An additional benefit is that this decision enhances potential foreign military sales cases.

Question. How will the M1A2 tanks be deployed and utilized since there will be such a small quantity?

How would the Army utilize additional M1A2 tanks if they were funded by Congress?

Was it the Army's or OSD's decision to prematurely terminate tank production.

Answer. Given the limited production of M1A2s, we do not plan to deploy them into units for operational duty. The tanks will be used to further the Army's knowledge and experience based on the capabilities of the M1A2 with its advanced-technology components. To this end, some M1A2s will be retained in the Training and Doctrine and Army Materiel Commands for continued technical and

operational testing. Others may be put into an operational unit in CONUS for extended operational assessment of vehicle performance in the hands of soldiers. If additional M1A2s are procured, they would probably be deployed into operational units in Europe. Actual deployment would depend upon the quantity of M1A2s available. The decision to terminate tank production was not premature. At the end of production in FY 1993, the Army will have almost 7,800 Abrams tanks. The Abrams will have been in production for almost 15 years. The decision to terminate tank production was recommended by the Army and approved by OSD after consideration of funding available and the needs to balance the force and after an assessment of the risks related to this decision.

Question. Under your current plans, how long will we have a cold tank production base before the introduction of the Block III tank?

Answer. Without any follow-on foreign military sales, the Lima tank plant will cease production in early 1993. The Block III tank Low Rate Initial Production is scheduled for mid-FY 1999.

Question. What are your intentions with respect to the two tank plants? What will it cost to carry out those plans?

Answer. The Army will negotiate a single year procurement contract with General Dynamics Land Systems (GDLS) for 163 M1A1 and 62 M1A2 tanks. As currently planned, Detroit Arsenal Tank Plant (DATP) could close as early as September 1991 and as late as 3rd Quarter FY 1992. Production at LATP will stop at the end of the FY 1991 funded delivery period, unless there are Foreign Military Sales.

Plans are to refurbish the machinery and layaway the facility until the 1998 time frame. When the DATP assembly line is laid away, the government's prime contractor for the Abrams tank—GDLS—will make the management decision concerning where the machined components would be manufactured. Alternatives include break out, fabrication at other GDLS facilities, or a proposal to continue production within selected areas of the DATP. The plant will close completely in 1998, i.e., be turned over to GSA for disposal, unless additional capacity is required for the M1A2 in the interim, or a decision is made to produce Armored System Modernization chassis/mission modules there.

The total amount identified in the FY 1991 budget submit for closing DATP is $111.6 million. $62.6 million is required for layaway, restoration, rehabilitation, and maintenance of equipment, and $49 million is identified in the M1 Abrams line for the PM's contractual responsibilities associated with closing DATP. There are no dollars in the FY 1991 budget associated with closing the LATP. The projected FY 1992 and FY 1993 requirement for LATP closure is estimated at $30 million and $264 million, respectively. Annual maintenance costs are $31 million to keep them in a ready to start up condition. The Army is currently negotiating a contract for a study to determine the economic impact (to include the layaway costs) of closing down the plants, but it will not be completed until mid summer 1990.

Question. Do you expect that the Block III tank will be manufactured at the Detroit and/or Lima plants? If so, how likely is it that the tank will be made of welded steel rather than some different

material? In other words, how much of the equipment at the two tank plants will likely to be usable for making the Block III tank?

Answer. The Army has not made a decision that the Block III tank will be produced in Lima Tank Plant (LATP) or Detroit Arsenal Tank Plant (DATP). When the contract for Block III production is let, the contractor will decide where it wants to produce the vehicle, either at LATP or some other plant of its choosing. However, due to the suitability of LATP for tank production, it is likely that the Block III will be produced there.

LATP instead of DATP would likely be selected, because while DATP machines 36 components and assembles tanks, LATP is a much more modern facility, produces the welded turret and hull structures, has the special armor facilities, and has the majority of the machinery operations. It will soon have a surge capability for producing 120 tanks/month vs. 45/month at DATP. In short, tanks can be built without DATP, but not without LATP.

Until the Block III is further along in development, no one can determine what the facilitization requirements will be. Unless the basic cutting/welding processes drastically change, 70–75% of the existing equipment at LATP can be used for Block III tank hull and turret fabrication. In the majority of cases, only the computer programs will have to be updated. Assembly line operations will basically remain the same, so associated equipment will still be functional. The remaining 25-30% of the equipment is considered obsolete today and would be replaced by state-of-the-art machinery (for example, robotics) prior to Block III production.

ARMY LIGHT TANK

Question. Part of the Army's new Armor System Modernization program is the procurement of a new light tank. What are the required characteristics of this tank?

Answer. The Army is seeking the procurement of a Non-Developmental Item (NDI) Armored Gun System (AGS), not necessarily a light tank, to replace the aging M551A1 Sheridan in XVIII Airborne Corps. The Armored Gun System will provide a forced entry, night capable, mobile, rapid fire, chemical energy (CE) and kinetic energy (KE) capability for use by contingency forces, worldwide.

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Question. What candidate vehicles is the Army considering for its new light tanks?

Answer. The Army has begun an intensive Market Survey of potential candidates. Several industry contractors have expressed interest in the Army's need for an NDI, off-the-shelf solution. The Army's Tank Automotive Command (TACOM) is conducting the survey and is preparing a Request for Proposal (RFP) to formally notify contractors of the characteristics and expected performance criteria for the Armored Gun System. The RFP will give defense contractors the opportunity to formally study the Army's desires and respond with proposals to meet the requirement. Currently, no candidates meet the NDI requirement.

Question. What role is the Marine Corps playing in the Army's decision to buy a new light tank?

Answer. The Marine Corps' role in the Army's decision to buy a new armored gun system has been minimal. The types of missions each system will perform, as well as its method of employment, has driven both the Marine Corps and the Army to different solutions. A review of the Marine Corps' Required Operational Capability (ROC) for a Light Armored Vehicle (LAV), and the Army's proposed Armored Gun System (AGS) ROC, reveals significant differences in the types of mission and employment, as well as deployment of each of the two systems. The Marine Corps' system will be used to conduct reconnaissance, security, and economy-of-force operations, as well as to conduct limited offensive and delaying operations. In addition, the Marine Corps' strategy for deployment includes the use of a heavy-lift helicopter which limits their LAV to system configuration weight of no more than 29,000 lbs. The role of the Army's AGS is primarily as a forced entry weapon system for use in military operations on urban terrain (MOUT). ——–. In addition the AGS will be a night capable, mobile, rapid fire, chemical energy (CE) and kinetic energy (KE) system for use by contingency forces, worldwide.

Question. Is there any reason why the Army and the Marine Corps should buy a different light tank?

Answer. At this time, the Army and Marine Corps have not moved their ROC requirements close enough together so that a mutually acceptable system could be fielded to both services and yet meet the ROC for each service. The Army's approach in developing the requirement for an AGS has focused on the operational requirements of direct fire support to airborne and contingency forces. The focus on supporting these operational needs has driven the Army to develop a ROC that dictates that the system must be delivered by Low Velocity Air Drop. The Marine Corps' ROC is focused on reconnaissance, security and economy of force missions in support of conventional USMC forces.

Question. Is it possible and/or likely that the Army would procure a wheeled vehicle rather than a tracked vehicle?

Answer. Yes. The Army will consider both wheeled and tracked candidates.

Question. How many of these tanks will the Army procure and at what cost? How much is included in your five-year budget for this purpose?

Answer. The near term objective is to procure 70 Armored Gun Systems to replace the 25(+) year old M551 Sheridan in the XVIII Airborne Corps (3-73 AR BN), including operational readinesss floats (ORF) and war reserve. The Army is doing a market analysis for possible candidates to produce/procure this system. Plans are to procure this system as a non-developmental item (NDI). Cost to produce this system cannot be determined at this time. The first year of funding is planned for FY 1992. The proposed FY 1992-1997 Program Objective Memorandum (POM) has not been approved at this time.

Heavy Force Modernization

Question. The Army's Heavy Force Modernization is a program to build a family of new ground combat vehicles (new tank, new

Bradley, etc.). The fiscal year 1991 budget requests $330 million for this initiative. Furthermore, the Army has changed the focus of this program and has changed the name to "Armored System Modernization."

Mr. Secretary, please explain the strategy behind the Army's Armored System Modernization and how it differs from the Heavy Force Modernization initiative.

Answer. The Army has reviewed its modernization plans in view of the changing world situation, and particularly the evolving and uncertain situation in Eastern Europe and the increasing potential for regional crises. As a result, the Army's Heavy Force Modernization (HEM) program has evolved into a plan that reflects a more comprehensive approach to modernization of combat vehicles for both light and heavy forces.

To ensure a credible, combat effective conventional land force, the Army must implement a continuous, dynamic modernization process that provides warfighting capabilities to exceed the threat ant takes advantage of emerging technological opportunities. Continuous modernization will replace old or qualitatively inferior systems to meet forward deployed, contingency, and reinforcing missions for the Army of the future. The HFM program provided for modernization of six high priority armored systems into the next century, and is constructed on the premise of common components in a more streamlined acquisition process. These systems are Block III Tank, Combat Mobility Vehicle, Advanced Field Artillery System, and Future Infantry Fighting Vehicle, all on a heavy protection level chassis, and the Future Armored Resupply Vehicle-Ammunition and Line-of-Sight Anti-Tank (LOSAT), both on a medium protection level chassis (i.e., the current Bradley/MLRS chassis).

The need to include other priority combat systems in our modernization efforts, and the importance of minimizing both investment and operating costs, necessitated that HFM evolve to an umbrella modernization plan termed Armored Systems Modernization (ASM). ASM will provide for product improvements to the current fleet of combat vehicles in the near and mid-term and aggressively pursue a near-term solution to the fielding of an armored gun system to contingency forces through non-developmental item acquisition. In the far term, ASM will develop and field the six armored systems discussed above and maximize both operational capabilities and interoperability through the procurement of vehicles developed on like or similar chassis.

Critical to ASM is the integration of evolving technology into current systems and into the development of future systems. This enables acquisition of state-of-the-art warfighting systems in the shortest time and at reduced costs. This will be accomplished by building on the principles of the former HFM program, such as commonality, concurrency in development, a streamlined acquisition strategy, and a realistic fielding plan. Obvious benefits of commonality include reduced development costs, reduced procurement costs (quantity procurement of components), reduced O&S costs (fuel, repair parts, maintenance, training, etc.), a decrease in the variety of personnel manning and training requirements, and enhanced system growth potential.

ASM is more than a name change. It is a plan to provide evolutionary modernization of armored systems in response to the changing world situation.

The Army needs ASM to ensure both lethality and survivability of its armored systems.

Question. Why did you change the focus of this initiative to include a "light system"—the Armored Gun System? Are there any funds requested in the budget for the Armored Gun System?

Answer. The Armored Gun System (AGS) has been added to ASM based on the need for a rapidly deployable system for contingency forces. The Soviet Union will remain our most capable competitor for the foreseeable future, but the Army must also field capabilities that can defeat other threats around the world, as evidenced in Panama. The AGS, initially through non-developmental item (NDI) acquisition, will solve the near-term problem for the contingency forces. To ensure the advantages of integrated development and commonality are fully explored, AGS has been added to the Armored Systems Modernization umbrella to provide essential warfighting capabilities for all types of forces and missions. In the mid to far term a new development for the AGS is being considered as the follow-on to the NDI AGS. This new development, if initiated, will bring emerging technologies together in the future to field an AGS with increased lethality, deployability, and survivability.

There are no funds requested in the FY 1991 budget for AGS. The first year of funding will be FY 1992 and continue through FY 1997 to replace the M551A1 Sheridans in the XVIII Airborne Corps. The minimum requirement is for seventy systems, including operational readiness float and war reserve.

Question. Concerning the new tank. Why is the new tank needed? What is the weight goal for the new tank? How does this compare to the weight of today's M1 tank? What is the maximum weight allowed for the new tank in your RFP to industry?

Answer. A new tank is required to meet the Army's threat driven requirements. The Soviet FST 3 is projected to overmatch the fielded U.S. tanks near the turn of the century. Military sophistication in developing countries is also increasing. This dictates that we field the Block III tank in order to maintain worldwide technological superiority. The tank is the centerpiece of the close combat fight, and as such it is imperative that it be modernized in terms of lethality, survivability, and mobility. I see no way of avoiding the necessity to modernize the Army's close combat systems if the United States is to be proactive in modernizing its forces to continue to be a worldwide power.

The weight goal for the Block III tank, as specified in the Request for Proposal to industry, is 55 tons, with a maximum allowable weight of 62 tons. This compares to the fully loaded weight of 67.6 tons for today's M1A1 tank.

Question. What is the point of investing billions of dollars in a new tank that is not significantly lighter than the current one?

Answer. The Army's decision to modernize its main battle tank is driven by operational requirements and the worldwide threat. The shortcomings of the current tank fleet, even when product improved, cannot meet the requirements for the main battle tank of the 21st century. Survivability, lethality, reliability and maintain-

ability, costs, weight, and sustainability requirements must all be met. A product improved Abrams can provide the level of lethality required; however, automotive and structural limitations will preclude application of sufficient protection levels to make the product improved version survivable. Recent cost and operational effectiveness analysis results indicate that a product improved Abrams will reach a weight of approximately 75 tons in an attempt to meet survivability requirements, and even then lacks the protection levels necessary to survive on the future battlefield. The Block III tank, meeting all the survivability requirements, is currently predicted by the same analysis to weigh approximately 61 tons, and with further design improvements and technological innovations may well reach the Army's goal of 55 tons. The key point is that the Block III will meet all the Army's operational requirements, and with expected technological improvements utilize existing and planned strategic mobility assets. A 75 ton product improved version of the current tank exceeds all these capabilities.

Question. The recent Appropriations Conference Committee states our expectation that a new artillery system—the Advanced Field Artillery System (AFAS)—will have one of the highest priorities under Heavy Force Modernization. What action have you taken to comply with our intent?

Answer. Activities planned in FY 1991 for AFAS include release of the Advanced Technology Transition Demonstrator (ATTD) Request for Proposal, the beginning of source selection for the AFAS ATTD, a Defense Acquisition Board Milestone I decision, completion of liquid propellant gun fabrication and integration, conduct of maximum velocity and burst firings for liquid propellant, the completion of unicharge propellant design, and completion of the propulsion evaluation plan. All the Armored Systems Modernization (ASM) systems are critical to the combined arms capability of Army forces. ASM system AFAS is an entirely new cannon system capitalizing on leap-ahead technologies, an its development schedule is driven by the availability of the propulsion technology (unicharge, liquid propellant, or electrothermal/chemical) to provide this leap-ahead capability. If the propulsion capability to provide the overmatch required for the future battlefield is available sooner, then the development schedule could be accelerated based on the availability of funding.

Ammunition Funding

Question. Last year the Committee added $306 million above the budget for procurement of ammunition. This addition brought the total to $2 billion, which is about the level of ammunition funding in recent years. The fiscal year 1991 ammunition budget is $1.4 billion, a 43 percent reduction. Is this an adequate funding level for Army ammunition?

Answer. Yes, $1.4 billion is an adequate funding level for Army ammunition within the context of the total Army budget. The 43 percent reduction to this program is based on economics and expectations of reduced war reserve requirements for particular rounds. The FY 1991 Amended budget provides support of our Armament Enchancement Initiative; fully supports training requirements; pro-

vides modest increases to our war reserve stockpile and maintains both the active and the inactive base.

Question. What changes do you see in ammunition requirements and the days of supply posture as a result of changes in force structure?

Answer. The Army's most current estimate of war reserve requirements is based on a set of most-probable, feasible scenarios that reflect proposed Army structure changes ———. Despite the proposed reductions in the size of the Army, annual training ammunition requirements will remain considerable.

Question. With a reduced emphasis on the Central European threat, what changes do you expect in the mix of ammunition procurement requirements? For example, will we be buying less tank ammunition and more ammunition for artillery and mortars?

Answer. Ammunition procurement requirements are driven by specific threat analysis, U.S. force structure and overall national military strategy. Funding constraints also affect the procurement strategy and cause us to conduct detailed tradeoff analyses to determine the most efficient type and mix of munitions. The Army will continue to procure the types and proportionate amounts of munitions that we have in the past. In anticipation of reductions in force structure, the actual number of rounds of all types will likely be reduced. Modernization of munitions remains a high priority in our procurement strategy.

CLOSING AMMUNITION PLANTS

Question. The Department of Defense has announced the possible layaway and/or closure of six government-owned ammunition plants in the next four years. On what basis were these specific plants selected?

Answer. Basis for selection of each plant is as follows:

Indiana AAP: The plant currently manufactures propelling charges for artillery projectiles. There is a marked decline in the procurement requirements for artillery ammunition, which translates into reduced procurement requirements for propelling charges. Consequently, Indiana AAP will be deactivated.

Kansas AAP: The plant loads, assembles, and packs (LAPs) artillery rounds. As the requirement for artillery rounds declines, so does the workload at Kansas AAP (and all AAPs that depend on artillery manufacturing). Although Kansas AAP will not have work from direct government contracts, it has the opportunity for third party subcontract work to systems prime contractors for munitions LAP.

Longhorn AAP: This ammunition plant loads, assembles, and packs (LAPs) pyrotechnic devices. The procurement requirements and workload for these devices are declining. The government feels that it can achieve significant economies in transferring Longhorn's reduced workload to the private sector which also has the capability to manufacture the products produced at Longhorn AAP.

Mississippi AAP: Mississippi AAP is an integrated plant that manufactures and LAPs the M483A1 artillery projectile. The Army

has sufficient stocks of M483A1s and therefore will deactivate the plant.

Scranton AAP/Louisiana AAP Metal Parts Facility: These plants manufacture artillery metal parts. The procurement requirements for artillery rounds have declined, with insufficient workload for both plants. Workload available will be competed between these plants with the loser being laid away.

Sunflower AAP: This plant manufactures an energetic chemical that is used in propellant. It is a large continuous operation that cannot be run economically at low peacetime production rates. Therefore, Sunflower AAP will be placed in layaway upon accumulation of a sufficient stockpile but cycled on an as needed basis to replenish the stockpile as it is depleted.

Question. Secretary Stone, you have announced a "zero-based management" study on Army ammunition plants to determine the proper mix of these plants and how many should be kept open. Doesn't the Defense Department's announcement on plant closures prejudice your study?

Answer. No. The study was completed in December and the results as they pertain to the active plants were announced in January; however, refinement and fine-tuning of the plan in the area of the inactive base continues.

Question. Do you anticipate that your study will result in the recommendation to close additional plants? Do you expect that some of the Defense Department's recommendations will be changed as a result of your study?

Answer. The DoD announced that six plants will close. We continue to evaluate the world situation, threat projections, and the mission of a smaller Army. When the restructuring of our force solidifies, and evolving future war reserve and associated procurement requirements become firm, the Army may propose additional closures or consolidations.

Question. What contractor-owned ammunition plants will be closing in the next four years?

Answer. We are not able to provide detailed information on contractor-owned facilities because their operations encompass commercial and foreign markets as well as our own ammunition procurement. However, we expect some reductions. At the same time, additional work may accrue in the commercial base for those items no longer produced in the government base such as projectile metal parts.

Question. What do you see as the appropriate role of contractor-owned ammunition plants in the industrial base and do you see it changing in coming years?

Answer. Typically, in the past, the government bought components of ammunition from industrial sources and then integrated those components into finished rounds at government-owned plants. In recent years, there has been a shift from reliance on the government to act as the systems integrator to using commercial sources as systems contractors. This change in acquisition philosophy brought several benefits, which include: fixing responsibility for ammunition performance on one commercial source, and allowing the government to obtain warranties that ammunition would function after prolonged storage.

The government has been pleased with the results of systems contractors so far, and we expect that they will have an increasing role in ammunition procurement. As a result of systems contracting, "contractor-owned" ammunition plants will have a larger role in the future. Although ammunition programs will be smaller, we expect that the government base will still continue to have a role in potentially lethal production operations, such as propellant and explosive production and load, assemble and pack operations.

Question. What do you consider to be an adequate mobilization base for ammunition and what needs to be done to get from the current base to an adequate base.

Answer. An "adequate" mobilization base is a base that can provide the ammunition needed, as defined by operational requirements, within expected warning time. Defining the equipment, building, and real estate needs to achieve adequacy is a complex planning effort. We believe that the suggested ammunition base, as reconfigured by the ammunition production base study, will be adequate to meet the foreseeable needs of the Nation for ammunition requirements.

Backlog of Depot Maintenance

Question. In fiscal year 1990, at the initiation of this Committee, Congress increased the level of funding of depot maintenance by $207 million, ship repair by $205.8 million, and real property maintenance by $400 million. Our concern was based on the frightening increase in backlogs in these areas and this money was added to reduce the backlog of projects.

For the Army, the increase to offset the depot maintenance backlog was $150 million. What has the Army done with this funding? Has the backlog been reduced? (For the record, please provide the 7-M depot maintenance funding and backlog for fiscal years 1986-1991).

Answer. The $150 million increase was applied to 7-M depot maintenance and resulted in a $150 million backlog reduction. Funding and backlog for 7-M maintenance for fiscal years 1986-1991 is as follows:

[In millions of dollars]

	FY1986	FY1987	FY1988	FY1989	FY1990	FY1991
Funding	1344	1427	1415	1810	1793	1516
Backlog	104	141	421	153	70	65

Question. Additionally, the funding level for depot maintenance was "fenced" to ensure that the additional money is spent on depot maintenance rather than other programs. Has the Army honored the congressional intent in ~~this area~~ and do you plan to reprogram funds from the fiscal year 1990 depot maintenance account?

Answer. Currently, it is estimated that FY 1990 will be executed at $1792.8, which is lower than the "floor" of $1865.0 million established by Congress. In establishing the "floor", Congress did not take into consideration other adjustments in the DOD Appropriations Act. Specifically, this was the transfer of the Asset Capitaliza-

tion Program ($-57.6 million.) to Procurement from 7M and the Foreign Currency adjustment of $-14.7 million. Given these congressional adjustments, DOD 1414 has been submitted to Congress requesting an adjustment of the floor from $1865 million to $1792.8 million.

Question. Congress has increased the level of funding for the Army's real property maintenance program by $200 million. What has the Army done with this additional funding? (For the record, please provide real property maintenance funding and backlog for fiscal years 1986–1991).

Answer. These Real Property Maintenance (RPM) funds were distributed to major Army commands, and are to be applied to high priority backlog repair projects (backlogs primarily for Unaccompanied Bachelor Housing, utility systems, hospitals, and operational facilities). A more precise accounting of these funds cannot be made available until the end of the fiscal year.

The following shows funding for real property maintenance and backlog levels for FY 1986–1991:

[In millions of dollars]

	FY1986	FY1987	FY1988	FY1989	FY1990	FY1991
Funding	1,311	1,650	1,188	1,288	1,547	2,007
BMAR	1,031	1,080	1,634	2,261	2,985	3,255

Excess Inventory

Question. A recent report completed by the Senate Budget Committee states that the Department of Defense has over $300 million of excess inventory. We accept the principle that there is "good" and "bad" inventory. What is your reaction to the Senate Budget Committee report?

Answer. The Senate Budget Committee report addressed seven major areas which has been previously addressed by GAO and the services. The Army has been taking corrective actions as a result of its own internal audits as well as GAO reports. A Contract Cutback/Termination Model has been implemented to reduce buys for parts that are no longer needed to meet Army requirements. It is looking at alternative uses for excess equipment, and actively pursuing the disposal of those for which there are no requirements. Initiatives to correct those problem areas, especially the ones dealing with inventory growth, have also been incorporated into the Defense Management Review.

Question. What was the Army's 1989 level of excess inventory?

Answer. The Army's portion of the $30 billion is $5.5 billion which is 18.3%; however, only approximately $0.5 billion is considered excess since $5 billion is stratified as inapplicable assets. Most of this is old, used, obsolete equipment. The Army is taking aggressive measures to reutilize, sell, or dispose of this equipment to free up warehouse space and recoup as much money as possible.

Question. One of the comments made in the Senate's report, was Army requirements for uniform items which could be considered excessive. Have you examined your uniform requirements to

ensure that your requests do not create unnecessary and expensive options?

Answer. Army requirements for uniform items are provided to the buying activity, Defense Personnel Support Center (DPSC), in an item moderization plan developed by Army Support Activity and reviewed by the Project Manager for Clothing and Individual Equipment and Headquarters, Department of Army. DPSC further reviews the modernization plan which considers current inventories, anticipated demands, average monthly demands and phase-in/phase-out strategies to most economically maintain a balanced assets position.

Question. Do you believe that proposals made in the Defense Management Review will assist you in managing your inventory problems?

Answer. Yes, the Army is an active participant in the Defense Management Review (DMR) process and is supporting several logistics initiatives which will result in improved inventory management. The Army offered its own initiatives which have been incorporated into the DMR—eliminating outmoded major items from the inventory, accelerated disposal of excess, increasing dollar-level thresholds for returns allowing disposal of unneeded items in the field, thus reducing inventory. In addition, the Army is participating in the consolidation studies—supply depots, maintenance depots, and inventory control points—which are designed to streamline the DoD supply system. Other measures are designed to give a more accurate cost of doing business by moving all depot level reparables into the Army Stock Fund and by adding surcharges for all management costs to secondary item unit costs. The DMR process will focus top management attention on inventory management.

FUNDING FOR MEDICAL PROGRAMS

Question. In fiscal year 1990, the Congress provided an additional $20 million above the budget request for the Army's medical program. The intent of Congress was that this additional funding would be used generally to increase the level of care provided in the military treatment facilities and specifically to hire more civilian health care workers. What has the Army done with this increased funding level (please be specific).

Answer. The DOD-wide civilian hiring freeze has impacted the Army's ability to execute the additional $20 million provided by the Congress in fiscal year 1990 for medical support personnel. In mid-February, the Assistant Secretary of Defense for Force Management and Personnel approved certain exceptions to the hiring freeze to allow hiring of certain medical support personnel. On the basis of these exceptions, funding will be made available to Health Services Command to provide for 541 medical support personnel that can be hired during the remainder of fiscal year 1990.

Question. Has the Army increased the number of civilians in the health care field?

Answer. Yes, but by only 28. Twenty-eight ancillary personnel were hired at Tripler Army Medical Center in Honolulu prior to implementation of the hiring freeze. Those personnel were a portion

of the staff to be used in a congressional-directed nursing productivity study.

Question. Has the Army increased the number of outpatients or inpatients treated at its facilities?

Answer. While the number of inpatients treated at Army facilities increased 2.3 percent in the first quarter of fiscal year 1990 over the first quarter of fiscal year 1989 and the number of outpatients treated increased 3.9 percent for the same period, the increase was not a result of the $20 million identified herein. Due to the DOD hiring freeze, the $20 million was not made available to Health Services Command. After having received certain exemptions to the hiring freeze in mid-February, the Army is preparing to distribute an appropriate amount of the $20 million to Health Services Command with the expected effect of further workload increases for the remainder of fiscal year 1990.

Reserve Forces

Question. The Secretary of Defense in his statement stated that as our active forces shrink, we must support substantial reserve force to continue to improve our ability to mobilize. Why then does the fiscal year 1991 budget show a reduction from the fiscal year 1990 appropriated end-strength of almost 23,000 Army Reserve and Army National Guard forces in the fiscal year 1990/early fiscal year 1991?

Answer. The Army is initiating a major restructuring in response to signfiicant changes in the international environment and substantially decreased resource availability. We believe that we must reduce the size of the Total Army if we are to maintain the quality of the force and the readiness required to fulfill our roles in National Security Strategy through the turbulent decade ahead. The end state we see is a smaller, capable Total Force; one that is well trained and ready to respond on short notice across the spectrum of conflict. The Reserve Components will continue to be an important element of our Total Force.

While the FY 1991 Budget marks the beginning of the Army's planned transition to a smaller force, it currently contains no provisions to reduce either the Army National Guard (ARNG) or the Army Reserve (USAR) end strength. This was expressly done to allow the completion of the Total Force Policy Study and the incorporation of its recommendations into our future plans. In the FY 1990 budget, the Reserve Component end strength is reduced by 19,704 spaces. The USAR reductions were necessitated by sequestration. The ARNG reductions are consistent with our future plans and were fully supported by ARNG leadership.

[Clerk's note.—The Department's reduction of 19,704 spaces is from the FY 1989 level. The Committee's number of 23,000 is from the FY 1990 Authorized and Appropriated end strength.]

Question. The Committee understands that some of these reductions came about because of desequestration. However, the Committee can not understand the rationale to cut the Army Reserve and Army National Guard by approximately 23,000, especially since previous testimony indicated that there is a serious shortfall

in combat support and combat service support forces in the Reserve Components. Mr. Secretary, please comment.

Answer. The Army is initiating a major restructuring in response to significant changes in the international environment and substantially decrease resource availability. We believe that we must reduce the size of the Total Army if we are to maintain the quality of the force and the readiness required to fulfill our roles in National Security Strategy through the turbulent decade ahead. When reductions are made in combat forces, it eliminates the need for supporting combat support and combat service support much of which is extant in the Reserve Components. Some units can be reallocated to fill existing shortages, but many will be inactivated.

However, the FY 1991 Budget currently contains no provisions to reduce either the Army National Guard (ARNG) or the Army Reserve (USAR) end strength. This was expressly done to allow the completion of the Total Force Policy Study and the incorporation of its recommendations into our future plans. In the FY 1990 budget, the Reserve Component end strength is reduced by 19,704 spaces. The USAR reductions were necessitated by sequestration. The ARNG reductions are consistent with our future plans and were supported by ARNG leadership.

Question. In addition, the Committee understands that the Army plans to request reprograming of $232 million into the active personnel account to offset some of the effects of sequestration. Why is there no proposed reprogramming to offset the effects of sequestration on the Army Reserve and Army National Guard?

Answer. The Army National Guard Personnel, Army (NGPA) appropriation was sufficiently below the sequester base that additional sequestration was not needed. The Reserve Personnel, Army (RPA) appropriation did receive a sequestration of approximately $33.3 million which was absorbed by reducing manpower levels by 9,500 enlisted personnel. These reductions are being achieved thru normal losses and reduced accessions. A reprogramming action for the RPA appropriation was submitted to realign $35 million within the RPA appropriation to finance inactive duty training requirements of the Selected Reserve. No requirement has been identified for reprogramming into either RPA or NGPA appropriation.

Question. The Appropriations Conference report requested that any reserve force structure reductions based solely on budgetary considerations proposed for the fiscal year 1991 budget should be held in abeyance pending the DOD study of total force policy, force mix, and military force required by Section 1101 of the National Defense Authorization Act, 1990. This study is expected to cover such issues as the assignment of missions to the active and reserve components, the potential effects of conventional arms reductions agreements on force structure realignments, and other issues related to the future size and configuration of the military services. Mr. Secretary, how can you support such sizable reductions in the Army Reserve and Army National Guard before this comprehensive study is completed and evaluated?

Answer. The FY 1991 Budget currently contains no provisions to reduce either the Army National Guard (ARNG) or the Army Reserve (USAR) end strength. This was expressly done to allow the completion of the Total Force Policy Study and the incorporation of

its recommendations into our future plans. In the FY 1990 budget, the Reserve Component end strength is reduced by 19,704 spaces. The USAR reductions are consistent with our future plans and were fully supported by ARNG leadership.

Question. How much would need to be added to the fiscal year 1991 budget to restore the Army Reserve and Army National Guard forces? Please provide a breakout by appropriation.

Answer. To restore the Army National Guard forces to the fiscal year 1989 levels would require the addition to the fiscal year 1991 budget of the following amounts in these appropriations:

a. National Guard Personnel, Army—$39.6 Million;

b. Operation and Maintenance Army National Guard—$10 Million.

For fiscal year 1991, $23 million is required in Operation and Maintenance, Army Reserve appropriation and $86 million (14,500 paid drill strength) in Reserve Personnel, Army appropriation. Additionally, the impact for fiscal year 1990 is $12.4 million in Operation and Maintenance, Army Reserve appropriation and $33.3 million (9,500 paid drill strength) in Reserve Personnel, Army appropriation.

United States Army Reserve Command and Control

Question. In fiscal year 1990, the conferees agreed that command, control, and readiness of the Army Reserve would be improved by increasing the direct authority of the Chief of Army Reserve over these forces and directed the Secretary of the Army to prepare a plan to increase the role of the Chief of Army Reserve consistent with the Chief of Air Force Reserve.

Mr. Secretary and General Vuono, how is this plan progressing?

Answer. In December 1989, CG, FORSCOM was tasked, in coordination with the Chief of Army Reserve, to forward a detailed plan to HQDA which delineates what needs to be accomplished in order to provide CAR command authority and how and when the transition should be implemented. On 12 February 90, FORSCOM submitted its recommended USARC Plan for staffing and approval. The plan emphasizes USAR C2 span of control, unity of command within FORSCOM, and decentralizing authority to local commanders. We will submit a final report to Congress in March describing how and when a transition to USARC should be accomplished. The Army remains committed to implementing a solution that meets congressional concerns, while enhancing Total Army readiness.

Question. Will it eliminate any of the excess layering cited in the House Report?

Answer. The recommended plan submitted by FORSCOM provides the minimum acceptable level of effective command and control within FORSCOM. Resourcing flow has been streamlined to allow for unimpeded distribution through USAR channels.

Question. Will it actually provide the Chief of Army Reserve with additional responsibility and the resultant authority needed to implement his control? Or, will it be a plan that only appears to provide command authority to the Chief of Army Reserve and really maintains status quo?

Answer. Currently, as the Chief of Staff's advisor on USAR matters, the CAR does not command USAR forces. Under the recommended FORSCOM plan, the CAR not only retains his present position, but is placed in command of most USAR units, and appointed as a deputy commanding general of FORSCOM. His authority and responsibility in these positions will be equal to his counterparts in the active force.

Future Procurement of Apache and AHIP

Question. The fiscal year 1990 Appropriations Act required the Secretary of Defense to review the requirements for Apache and AHIP helicopters and report to the Committees on Appropriations by April 1, 1990. What is the status of that review?

Answer. OSD continues to review requirements for Apache and AHIP helicopters. The review is scheduled to be distributed to appropriate committees by April 1, 1990.

Present and future force structure reductions no longer justify Army procurement of additional AH-64 aircraft. Termination of AH-64 procurement buys 807 aircraft providing sufficient Apaches to resource an attack helicopter warfighting force of 40 battalions.

Procurement for the OH-58D was terminated in FY90 with total procurement for 243 aircraft. Army requirement for the OH-58D remains at over 500 aircraft to resource high priority recon/cav and light attack units. Army is accepting a near term risk by not funding additional OH-58Ds in order to fund LH.

Question. Do you expect to recommend to the Secretary of Defense that he change his mind and procure additional Apaches and/or AHIPs rather than terminate these programs?

Answer. No.

Question. Will Reserve Component units be fully equipped with Apaches and AHIPs under your current plans?

Answer. The Army's basic philosophy on fielding the AH-64 has been predicted from the start on fielding only to mechanized and armored divisions and to corps—those organizations that must confront the greatest armor/mechanized threat and employ forces over wide areas. Procurement of AH-64s for light divisions, either Active or Reserve, was not programmed. Current plans will fully equip mechanized and armored divisions with AH-64 aircraft in both the Active and Reserve Components.

Under current plans, the OH-58D will not be fielded to Reserve Component units until LH is fielded in sufficient quantities to replace the OH-58D in the Active Component (Approx FY05). The OH-58D program was terminated in FY 1990 with a total procurement of 243 aircraft. With a procurement for only 243 OH-58Ds, neither the Active nor the Reserve Components can be fully resourced with the OH-58D.

Question. What changes in force structure and deployment of the Apache and AHIP are being made as a result of the premature termination of both of these programs?

Answer. Today, the Total Army force structure includes 40 AH-64 helicopter battalions with a procurement objective of 807 Apaches. Of these, 26 are in the Active Component, 12 in the National Guard, and two in the Reserves. This provides AH-64s for

all Active and Reserve heavy divisions and all corps. Each of these units is authorized 18 Apaches. The plan is to equip the Reserve Component AH-64 units with 15 aircraft each initially, while providing 18 to each Active Component unit. Fielding Reserve Components units with 15 Apaches initially was the only force structure change as a result of terminating the Apache program. This prudent economic strategy will provide sufficient aircraft up front for training and float accounts. As additional force structure reductions are implemented, we will backfill additional AH-64s to the RC units. Termination of the AH-64 procurement at 807 aircraft is reasonable.

Termination of the OH-58D program at 243 aircraft resulted from fiscal constraints. To optimize utilization of the 242 aircraft and partially redress Army aviation's number one deficiency—finding and engaging the enemy at night and in adverse weather, OH-58Ds are being removed from heavy division Field Artillery Observe units and modified with Air-to-Ground weapons. The Armed OH-58D Warriors will then replace aging OH58A/Cs and AH-1s that cannot fight at night in the Army's high priority reconnaissance/cavalry units and in the attack helicopter battalion of the 82nd Airborne Division.

Question. Are you concerned about the domestic production base resulting from the termination of these programs prior to production of LHX?

Answer. The Army is concerned about the domestic production base. However, that concern is significantly reduced given the following situation: LH (formerly LHX) production is to begin in 1995. Of the four major helicopter producers, we know of three which will continue to provide major modification programs or production until 1997 and into the 21st century. Sikorsky will produce the UH-60L well into the 21st century. McDonnell Douglas Helicopter Company will continue to produce and deliver the Apache until December 1993. In September 1993, the major modification of 227 Longbow Apache's will begin and will go through 1997. The Bell Helicopter OH-58D modification and delivery will continue until 1992. In 1992, the major modification to arm all 243 OH-58D's to the "Warrior" will begin and is scheduled to go through 1996.

LHX Helicopter

Question. This is a key decision year for LHX. The budget requests $465 million to initiate "full scale development" after choosing a winning contractor team in 1990.

What is the status of the LHX development program, and what results have you seen so far?

Answer. The $465 million consists of $411 million to initiate LH full scale development and $54 million to continue full scale development of the highly successful T800 engine, the power plant for LH. Both of the LH prime contractor teams, Boeing/Sikorsky and McDonnell/Bell, have made excellent progress during the Demonstration/Validation (DEM/VAL) phase of development toward refining their LH designs for meeting program requirements and reducing risk for Full Scale Development (FSD). All program milestones have been met on schedule, technical performance is on

track, and both teams are expected to complete DEM/VAL within budget.

Both teams have achieved satisfactory progress with their Mission Equipment Package (MEP) design and hardware/software demonstration efforts. Successful demonstrations completed to date include: Very High Speed Integrated Circuitry (VHSIC) mission computer module "cluster" consisting of signal and data processing modules; second generation Forward Looking Infrared Radar (FLIR) focal plane array detector; wide field-of-view helmet mounted display; and Ada software development tools. These have primarily been component level demonstrations and will be followed by subsystem and system level brassboard demonstrations by the end of DEM/VAL. Preparations are well underway for these major hardware demonstrations scheduled for the summer of 1990.

Successful progress is being made on the competing air vehicles. Numerous design/requirements trade studies have been completed, and point designs, including subsystems, are maturing. Operational effectiveness models have been developed and executed to aid the design decision process to converge on a design that will "optimize" combat effectiveness within program weight and cost requirements. To supplement this process, wind tunnel testing, radar signature testing, and sophisticated engineering simulations have been conducted, and mock-ups have been fabricated.

In summary, both contractor teams are rapidly refining their designs to achieve a 7,500 pound combat empty weight and a $7.5 million flyaway system. Both teams are making excellent progress and performing the work necessary to reduce risk and prepare themselves for the FSD.

The T800 engine program continues its progress within cost and schedule. The Army's performance requirements have been met or exceeded with over 8,000 hours testing complete to date.

Question. Will the Army be ready to move the program into the next development phase during 1991?

Answer. The Army is confident that full scale development will proceed in 1991 on schedule and provide the Army with a highly effective and supportable aircraft. This confidence is based upon the work that has already been accomplished along with the progress that the contractors have made during DEM/VAL. It is further substantiated by the highly successful T800 engine development program for the LH. The T800 has met or bettered all goals. Additionally, the T800 program is on schedule and within cost.

Question. Considering the Army's current proposal to arm the AHIP, what mission is left to be accomplished by LHX? What is the possibility of continued adequate funding for both the armed AHIP and the LHX?

Answer. The LH remains the Army's top priority major acquisition program and is designed to meet mid to far term requirements for an armed reconnaissance helicopter, a rapidly deployable attack helicopter for light infantry divisions, and for an air combat helicopter to counter threat aircraft. The OH-58D Warrior is a near term solution for an armed reconnaissance helicopter for air cavalry, reconnaissance organizations and priority units of the XVIII Airborne Corps. The Warrior will not meet the LH require-

ments. Both programs are currently funded and are high enough in priority that we expect both to remain funded.

Question. Last year, GAO and the Committee expressed concerns about the lack of competitive prototype LHX aircraft prior to selecting the winning contractor team. Please explain why you feel we should not be concerned.

Answer. The Army selection for Full Scale Development (FSD) will not be used on a flyoff between aircraft prototypes; however, competitive prototyping will be accomplished at the system/subsystem level for the LH Demonstration/Validation (DEM/VAL) program. Brassboard/breadboard prototypes of major Mission Equipment Package (MEP) subsystems, including the VHSIC mission computer, Night Vision Pilotage System, Helmet Mounted Display, and Target Acquisition System are being built and competitively evaluated either in the laboratory or on surrogate aircraft during the DEM/VAL phase of development. In addition to this MEP prototyping, major portions of the air vehicle will be competitively evaluated by the utilization of wind tunnel models (of both the aircraft and rotor system), and mock-ups of the cockpit, armament systems, and avionics bays. Although no full flying prototypes will be built in DEM/VAL, this degree of prototyping is extensive at the system/subsystem level and will allow full substantiation of each contractor's proposal during source selection and a prudent risk full scale development program.

Question. We understand that any LHX cost estimates this early in the program are "fuzzy", but we would like you to share with us the numbers you use internally for planning purposes. Please tell us in both constant and real dollars the following LHX costs:

Total development cost.

Total production cost.

Total program cost.

Projected aircraft unit cost.

Answer. The requested costs are shown below for the current program. The development costs include the T800 engine program. The contracts for the T800 engine program include strong price guarantees for all production supporting the Light Helicopter assuring an average unit cost of $245 thousand per engine (FY85$). The Air Vehicle development cost estimates have been reviewed, in detail, by the Office of the Secretary of Defense's Cost Analysis Improvement Group (CAIG) and the Department of the Army's (DA) Cost and Economic Analysis Center before program approval in June 1988. The CAIG and DA reviews will continue throughout the discussion process leading to Milestone II (MSII) decision in January 1991. In addition to the CAIG and DA oversight of the cost estimates, both teams are required to complete life cycle cost estimates as part of the Demonstration Contracts. The on-going cost estimating and reviews will result in the firmest and best documented cost analysis before MSII of any Army Aviation Program. Also included are Risk Reduction programs which have been completed. The development costs cover the fiscal year 1984 through fiscal year 1997 time frame. Production costs reflect a total buy of 2,096 aircraft produced at a rate of 216 aircraft per year. Total program costs add fielding and sustainment costs to the development and

production estimates and assume each aircraft operates approximately 20 years.

[In millions of dollars]

	Constant dollars	Real dollars
Development	$3,212	$3,823
Production	23,745	38,849
Total Program [1]	26,957	42,672
Unit Flyaway	7.5	

[1] Total Program includes development and production costs.

Question. What is the latest "Initial Operating Capability (IOC)" estimate for the LHX, and how does this compare to your original estimate?

Answer. The projected Initial Operating Capability (IOC) for the LH program is December 1996. This is one month later than the approved program. The Defense Acquisition Board (DAB) approved the LH for entry into the competitive Demonstration/Validation (DEM/VAL) phase in June 1988, at the Milestone I review. The reason for the one month extension is the result of a $40 million funding decrement in fiscal year 1991 to the DAB approved funding profile.

Question. How many LHX aircraft do you plan to buy?

Answer. The LH program currently projects a total buy of 2,096 aircraft produced at a maximum rate of 216 aircraft per year beginning with production Lot VI (FY2000).

Follow-On To Lance

Question. Mr. Secretary, as you are aware, replacing the short-range Lance missile in Germany with modern, longer-range Follow-On To Lance (FOTL), has become a questionable issue for the Germans. In fact, an aide to West German Foreign Minister Genscher said that the modernization of Lance, "makes us laugh . . . (it) is not feasible."

What is the current status of the Follow-On To Lance?

What is your reaction to the opposition voiced by the West German government?

Answer. The Follow-On To Lance (FOTL) system is currently in research and development, with a target date of the mid 1990s for achieving an initial operational capability (IOC). Within the next month or two, a request for proposals should be released to industry, soliciting bids for system development. A decision to enter full scale development could be made by the end of this fiscal year.

Short-range theater nuclear forces remain an integral part of NATO's strategy of flexible response and deterrence. The West German government has not formally voiced any opposition to the FOTL system. Along with every other NATO country, West Germany endorsed the Comprehensive Concept of Arms Control and Disarmament, formulated at the May 1989 meeting of the North Atlantic Council. This concept recognizes the need for robust and capable nuclear forces in NATO, acknowledges the value of continued funding by the U.S. of research and development for FOTL,

and agrees to defer a FOTL deployment decision until 1992, when overall security developments in Europe will be reevaluated.

It will be an Alliance decision whether and when to introduce FOTL in NATO. It is a U.S. decision to provide weapons systems for U.S. soldiers who have commitments to respond to security emergencies on a worldwide basis. Regardless of the NATO deployment decision, the U.S. requirement for FOTL remains, although the number of procured systems may change.

Question. If the Follow-On To Lance is not positioned on German soil, what are your options and what is the effectiveness of the system?

Answer. A NATO alliance deployment decision will not be made before 1992. At this time I do not want to speculate about options that do or do not involve stationing the system in Germany.

Even in light of the changes that are occurring in Europe and elsewhere, the concept of flexible response remains a valid doctrine. Capable, survivable short-range nuclear forces (SNF), such as Follow-On To Lance (FOTL), perform an extremely valuable deterrent function and provide linkage between our conventional forces and the national strategic arsenal. SNF serve as both a hedge against the possibility of a regenerated Soviet conventional threat and as a deterrent to regional nuclear capable powers.

Worldwide, potential adversaries must recognize that, should certain events indicate a potential mission failure, employment of nuclear weapons, organic to U.S. Army units, will be considered with the aim of bringing about conflict termination on terms favorable to the U.S.

Regarding the effectiveness of FOTL, you must understand that it has not yet entered full-scale development. Lance, the current system that FOTL is being designed to replace, initially was fielded in 1972 and is quickly approaching the end of its effective life. At this juncture, it is necessary to develop a system with improved accuracy, lethality and significantly greater range than that provided by Lance. The required operational characteristics for FOTL will produce a capable and survivable system, critical ingredients for a weapon whose primary role is deterrence.

Question. Can the Lance mission be accomplished by the Air Force SRAM II?

Answer. I assume you are referring to the tactical nuclear role of Lance. It also has a conventional capability. The Air Force has already fielded two, and is developing a third, SRAM-based missile system. SRAM II is a strategic, nuclear, short-range missile. SRAM-T is being developed as a tactical, nuclear capable, longer-range attack missile.

In its nuclear role, the primary function of Lance is to serve as a deterrent to nuclear and conventional attack. Should deterence fail, Lance, with a long-range artillery general support mission, provides corps commanders with the ability to place mobile battlefield targets at risk.

As Lance approaches the end of its service life extension program, a replacement system is required that enables the ground commander to attack both fixed and mobile targets out to the range limits imposed by the INF treaty.

The short answer to your question is no, SRAM-T cannot accomplish the total mission performed by Lance. The Army must replace its organic nuclear capability, currently provided by Lance, with the Follow-On To Lance (FOTL) system. The Army requires a tactical nuclear system capable of rapid response to the corps commander for the attack of mobile land battle targets should conventional weapon systems prove inadequate.

There is significant risk associated with a dependence on aircraft to provide needed nuclear fire support to Army forces. Aircraft and SRAM-T currently are not being fielded to directly engage mobile targets encountered during battlefield operations. It is true that SRAM-T, if provided accurate, real-time intelligence and good weather, could engage mobile targets. The system, however, is optimized for fixed target attack. Even in the area of fixed target attack that indirectly impacts battlefield operations, aircraft survivability might impact strike success. The responsiveness of all-weather, battlefield, organic Army nuclear systems is better than an aircraft-launched system, particularly regarding elapsed time from request to weapon on target and from the ability to gain a favorable political decision for use when required.

Lance (to be replaced with FOTL) and SRAM-T should be viewed as complementary systems that provide for a survivable deterrent and the necessary level of operational flexibility for the tactical employment of short-range nuclear weapons.

Advanced Antitank Weapon System-Medium

Question. The Advanced Antitank Weapon System-Medium, or AAWS-M, is a joint program with the Marine Corps to replace the Dragon, the current medium antitank weapon system. A full scale development contract was awarded on 21 June 1989. What is the current status of the program?

Answer. The AAWS-M is in the eighth month of the 36 month Full Scale Development contract. We are concentrating our efforts on fielding a lethal antitank system on time and at the required weight.

Question. Has the performance been accepted to date?

Answer. Yes, we expect the Full Scale Development program to be completed on time and within the Army Cost Position (ACP).

Question. What is the funding level for AAWS-M in the FY 1991 budget request? Does this fully fund the original IOC?

Answer. The FY 1991 budget request is for $76.8 million in Research and Development funds to continue the Full Scale Development effort for $15.5 million in procurement to purchase long lead items necessary to begin Low Rate Initial Production (LRIP) in FY 1992.

Question. Is AAWS-M fully funded in the Five Year Defense Plan (FYDP)?

Answer. Yes, both research and development and procurement for AAWS-M are fully funded in the FYDP.

Military Satellite Terminal Program

Question. No funds were requested for the procurement of SCOTT (Single Channel Objective Tactical Terminal) for the Army

portion of the MILSTAR communications satellite program. Substantial funds are requested in the Navy and the Air Force for MILSTAR terminals.

What is the current status of the Army's MILSTAR terminal program?

Answer. Army is currently continuing the developmental aspects of the AN/TSC-124/MILSTAR program. Successful interoperational tests have been accomplished between the AN/TSC-124 and the Navy and Air Force MILSTAR terminals through the MILSTAR satellite simulator and the FLEETSAT EHF Package (FEP). With exception of the reliability problem cited below, developmental AN/TSC-124 software and hardware are meeting and/or exceeding quality assurance requirements.

Question. Why are no funds requested for fiscal year 1991 for the program?

Answer. No procurement funds were requested in the Army FY 1991 budget for SCOTT (AN/TSC-124) MILSTAR terminals because OSD directed that FY 1991 procurement funds be deferred until FY 1992. The reason OSD directed the reprogramming of FY 1991 Army AN/TSC-124/MILSTAR terminal funding into FY 1992 was that the contractor (Magnavox) was having trouble satisfying reliability (mean time between failure) criteria specified by contract for the developmental terminals. This problem indicated that the 3rd quarter FY 1991 projected contract award date for the production terminals would probably slip until late 4th quarter FY 91 or 1st quarter FY 92. This was the same reason Congress zeroed out Army FY 90 production funds programmed for the AN/TSC-124/MILSTAR terminal production contract.

Question. Provide for the record the Five Year Defense Plan for the Army's MILSTAR terminal program.

Answer. The amended FY 1991 budget reflects fundings as follows:

[In millions of dollars]

	FY 1989	FY 1990	FY 1991
Funds	36,500	0	0
Qty	12	0	0

The production contract for SCOTT/MILSTAR terminal is scheduled to be awarded in FY 1992. Resources, however, are not shown beyond FY 1991 consistent with current DOD policy.

Army Communications and Intelligence Assets in European Theater

Question. Mr. Secretary, it is highly probable that the Army will be undergoing significant force restructuring in the European Theater.

What emphasis do you expect the Army will be giving to retaining communications and intelligence assets in a restructured European Theater force structure?

Answer. Command, Control, Communications and Intelligence will remain critical to the Army in the European Theater. As demonstrated in our successful Operation Just Cause, Army commanders require adequate communications to effectively control their forces, and accurate intelligence information to employ those forces at the right time and place. We will fully coordinate any force structure actions in Europe with our military leaders there. Communications to support the tactical Army will be tailored to meet the needs of the forward deployed forces. We are also looking to make more efficient the Army's participation in the Defense Communications System. Fielding of modernized communications systems to Europe will continue to upgrade the quality of service provided our forces. We are very carefully studying Army intelligence force structure and capability requirements in Europe to meet the intelligence needs associated with a smaller presence there. Our emphasis will be on fulfilling the Army's responsibilities in treaty verification and improving indications and warning capabilities for theater and tactical forces. Special attention will be placed on increasing targeting capability to enhance deterrence, the ability to quickly and accurately identify movements and buildups of forces, improved analytical capability, and the rapid fusion of targeting and intelligence information for the conduct of deep operations. In summary, forward deployed communications, command and control and intelligence assets will become even more important to us as we reduce our forces in Europe.

Cold Wet Weather Boot

Question. During my trip to Korea several months ago, I spoke with the soliders about the boots they were wearing. I was surprised to learn that they bought their boots from the exchange using their own money. It seems that the boots issued to the troops are not warm enough for the winters in Korea.

The Appropriations bill of FY 90 directed the Army to use $6 million from its O&M funds to procure and issue cold-wet boots especially to those troops stationed at cold weather areas.

What is the status of the procurement?

Will these boots be issued before the end of FY 90?

Answer. Army has evaluated 35 commercially available boots, narrowed the candidates to four, will finish testing in Alaska in May and will make a final selection in July. Technical data packages will be prepositioned with Defense Personnel Support Center pending final outcome. The funds will be obligated in FY 90. Procurement will be expedited using a commercial product description in August to allow issue of cold-wet boots in winter 1990–1991.

Automatic Data Processing Programs

Question. The committee last year expressed extreme dissatisfaction with the Army's management of automated data processing programs, in which the Army spends about $2.5 billion a year. Internal Army audits, DOD IG reports, and the GAO continue to disclose fundamental management problems in areas such as organization, planning, acquisition, and inventory. One DOD IG report

states that the Army did not follow Federal, Defense, or Army regulations on one particular acquisition.

Mr. Stone, when you were the Army Assistant Secretary for Financial Management a few years ago, you were the Army's chief ADP official. What's wrong with Army ADP? What actions have you taken to improve the management of this important area?

Answer. Since 1985, Army ADP management has suffered because of four significant shortfalls. The first was lack of stability in the ADP senior and mid-level leadership positions. The second was the Army's failure to establish comprehensive Life Cycle Management policies and procedures on how the Army would acquire, manage, and use its ADP resources. The third was lack of direction within the Army in the way of an ADP modernization plan, strategy plan, and architecture. The fourth is insufficient numbers of highly trained and skilled personnel to fill key Army IRM positions. Findings by such investigations and audit organizations such as HAC S&I, GAO, DOD IG, and the Army Audit Agency confirmed these shortfalls.

LTG Hilmes, the Army's current senior ADP official has implemented an aggressive corrective action program that is focused on early elimination of these shortfalls. In the area of stability for ADP senior and mid-level leadership positions, LTG Hilmes has established, and is currently recruiting for a Senior Executive Service (SES) level Technical Advisor position within his front office. He also has actions underway to estalbish an SES civilian to take charge of the Policy and Strategy Directorate. LTG Hilmes established the Information Mission Area (IMA) Civilian Capstone Program and appropirate committees to identify other ADP leadership positions that require senior civilian occupancy for program stability. This IMA Civilian Capstone Program also has an objective of solving the shortfall of highly trained and skilled personnel by providing special training and development classes beginning last quarter, FY90.

The Army recently pubished Army Regulation (AR) 25–3 dated 27 November 1989 which contains comprehensive Life Cycle Management policies and procedures. An information Mission Area Assistance Team (IMAAT) has been established that will go on-site to provide assistance at chosen Army locations on the implementation of AR 25–3 as well as assisting in other areas of ADP management. IMAAT visits will begin April 1990 and will continue to visit regional areas on a quarterly basis. The IMAAT will also provide more oversight and accountability of ADP resource expenditures as will the Army's Major Army Information System Review Committee (MAISRC) to include how well acquistion strategies are being developed and followed. We have strengthened the Army MAISRC and AR 25–3 requires all systems in excess of 10 million dollars to come to Headquarters Department of Army for MAISRC approval. AR 25–3 also requires all systems from 2.5 to 10 million dollars to have a MAISRC-type review at the Major Army Command level.

We are developing several planning and strategy concepts to ensure prudent use of our automation resources. In February 1990, we completed the final draft of the Information Mission Area Sustaining Base Modernization Plan which addresses our ADP modernization objectives. We also developed the Army Strategy for

Sustaining Base Automation in October 1989. This strategy also addresses modernizing our sustaining base automation systems in a constrained fiscal environment. By March 1990, we will publish an automation planning process to be contained in a Department of Army Pamphlet 25-2 "IMA Planning Process". Pamphlet 25-2 lays out the planning process to ensure that requirements are valid and the planning process is tied to the Programming, Budgeting, and Execution System. To ensure that our automation systems efforts are valid, fit together, and are the right systems to acquire, we have reactivated and reconvened the Army's Architecture Control Committee (ACC). The ACC is composed of some of the Army's senior leadership and assists LTG Hilmes in the review, evaluation, validation, integration, and prioritization of our automation efforts.

In reference to the Army's ADPE inventory reporting, LTG Hilmes initiated action to improve the completeness and accuracy of the Army's Automation Resource and Planning Management Information System (ARPMIS). To date we have made good progress and this effort is continuing.

I am confident that these corrective actions will produce a significant improvement in ADP management in the Army. We will also have to use this stengthened management framework for disciplined and effective program decisions.

Question. The only "shining star" in this morass has been the Reserve Component Automation System which continues to be a model program. The committee appreciates your continued strong support of this long overdue effort to provide basic computer capability to our Reserve soldiers. What is the status of RCAS?

Answer. The Active and Reserve Components of the Army have been involved in many things this past year to support RCAS. The most significant was the preparation of the RCAS Request for Proposal, which was released on schedule in December 1989. The next event is the award of competitive demonstration contracts in the 1st Qtr of FY 1991. This will be followed by a selection of contractor in the 1st Qtr FY 1992. The program is fully funded and is making excellent progress.

Tank Recovery Vehicle

Question. Last year's Appropriations act included a legislative provision requiring the Secretary of the Army to complete technical and operational testing and acquire the technical data package for the Improved Recovery Vehicle, M88A2. How is the Army complying with this requirement?

Answer. The Army Tank Automotive Command has developed a test program plan to execute technical and operational testing, leading to acquisition of the technical data package for the Improved Recovery Vehicle (IRV). Preliminary actions to transfer accountability of prototype vehicles and release funding to the Tank Automotive Command are in process. Funding to accomplish the test program and acquisition of the technical data package is estimated at $22.232 million. Funding requirements exceed the $15M of FY 1989 IRV procurement funds, allocated by Congress to accomplish the legislative provision, by $7.232 million. A reprogramming will be required to provide the necessary funding to accom-

plish the legislative provision. A new contract must be negotiated with BMY Corporation and prototype vehicles must be refurbished, prior to start of testing.

Question. The conference report also directed the Army to report by March 31 on the nature and extent of deficiencies in the current approved practices and procedure for recovery of armored vehicles. The report is to include a long range program and budget plan for addressing these deficiencies. What is the status of that report and what can you tell us about what it will say?

Answer. The Training and Doctrine Command (TRADOC) has prepared a draft report which is currently being staffed within TRADOC. This report is to be submitted to Headquarters, Department of the Army for staffing in March. It is anticipated that this report will acknowledge the requirement for an improved recovery vehicle, and outline short term and long term alternatives in light of results of test of the M88A1E1, future force structure, available funding, and future priority of an IRV in the Battlefield Development Plan (BDP) and Long Range Research, Development and Acquisition Plan (LRRDAP). It is anticipated that in the long range, the report will propose the fielding of an Armored System Modernization (AWM) recovery variant capable of supporting the ASM fleet.

[CLERK'S NOTE.—End of questions submitted for the record. The Fiscal Year 1991 Army Posture Statement is referred to on page —, follows:]

Trained and Ready

The United States Army
Posture Statement
FY 91

ARMY FUNDAMENTAL IMPERATIVES

Quality

Attract and retain high quality soldiers and civilians

Doctrine

Maintain forward-looking warfighting doctrine

Force Structure

Maintain the force size and mix of heavy, light, and special operations units required by national strategy

Training

Conduct tough, realistic training

Modernization

Modernize continuously to ensure Army forces have needed warfighting capabilities

Leader Development

Develop competent, confident leaders

Carl E. Vuono
General, U. S. Army
Chief of Staff

M. P. W. Stone
Secretary of the Army

Foreword

The world has witnessed unprecedented and momentous events over the past year. The developments in the Soviet Union, Eastern Europe, and China clearly indicate that even the most oppressive governments cannot forever suppress the attractions of democracy. We are also witnessing a welcome expansion of freedom and what may be a significant reduction in the possibility of war between major industrialized nations.

This outbreak of freedom is due in no small measure to the powerful symbol the Free World provides and to the persistence of the United States and its allies in demonstrating their commitment to safeguarding liberty. The Army has played a central role in this effort by providing trained and ready ground forces capable of deterring aggression and protecting U.S. and Alliance security interests worldwide.

There is still, however, tremendous uncertainty as to the outcome of developments in the Soviet Union and Eastern Europe. The crushing of the democratic movement in China, and the blood spilled in overthrowing the regime in Romania are testimony to the difficulty of uprooting old institutions of repression and planting viable democratic replacements. That process has begun in the communist world, but it is by no means irreversible. For the near term, then, Soviet and Soviet-supported military action in Europe and Asia will remain a demanding challenge for the U.S. and its allies. Deterrence and regional stability will, therefore, continue to require forward deployment of combat-ready U.S. ground forces. At the same time, new conflicts and threats to U.S. interests outside of Europe are growing in complexity and sophistication.

In adapting the Army to meet the requirements of this evolving international security environment, we have developed a prudent program to fulfill the Army's roles in U.S. national security strategy for the years ahead while maintaining the quality and readiness of its forces. Our successes in the past decade have been built upon the solid foundation of quality soldiers and civilians, well-trained and equipped, guided by dynamic warfighting doctrine, and led by skilled, motivated leaders. While the composition of this force may change as a result of the Department of Defense Total Force Policy study, it is our intention to continue to build on this base as we shape the Army of the future. Of necessity, this Army will be smaller, but it will be a capable force of the highest possible quality.

Today's Army is trained and ready. The success of Operation Just Cause in Panama has clearly demonstrated the Army's capabilities. The Army stands ready to lead our Nation into the 21st century.

Trained and Ready in An Era of Change

The Posture of The United States Army Fiscal Year 1991

by

The Honorable Michael P.W. Stone
and
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before

Committees and Subcommittees
of the
UNITED STATES SENATE
and the
HOUSE OF REPRESENTATIVES
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I. The Evolving National Security Environment

The Army must adapt to the evolving national security environment: Citizens of Berlin stand atop the Berlin wall after the opening of this famous border between East and West

Challenges, Risks, and Opportunities

In the years ahead, the United States will face unprecedented challenges, risks, and opportunities in a volatile and unpredictable world. This rapidly changing international environment will place different and far-reaching demands on the U.S. military, particularly on its conventional forces.

Clearly, the events taking place in the Soviet Union and Eastern Europe are historic and present significant opportunities to lower the level of superpower confrontation that has occupied the world for the past 40 years. Change, however, does not necessarily bring peace and security. In fact, the dissolution of great empires has historically been accompanied by uncontrolled turbulence and instability. The risks associated with reacting too quickly to these unfinished events are substantial and must be carefully and realistically assessed as the United States confirms the dramatic political developments in the Warsaw Pact. At the same time, new threats and more sophisticated versions of existing transnational problems are likely to arise. The challenge for the Army in this era of change will be to prepare for the future without losing sight of both the present opportunities and the inherent, yet uncertain, risks of evolving security challenges around the world.

The Threat

The United States faces as complex and varied a security environment as it enters the 1990s as at any time in its history. The world economy is becoming more integrated and new centers of influence are developing. The increased lethality of weaponry and the proliferation of force in the developing world make regional conflicts more rather than less likely. Allies are becoming more assertive in pursuing their own interests and are less apt to follow the lead of a superpower.

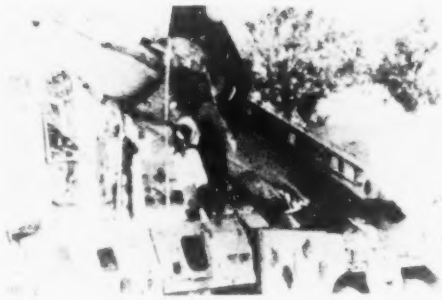
Simultaneously, the Soviet Union's severe economic problems have forced the Soviet leadership to

adopt a less confrontational attitude toward the West. President Gorbachev's programs of *perestroika* and *glasnost* and his aggressive proposals in many areas of arms control suggest that the Soviet emphasis on massive military power, centralization, and confrontation abroad has changed, at least temporarily.

The changes in the Soviet Union are positive developments to be encouraged. Nevertheless, U.S. military posture must be designed to meet potential adversaries' long-term capabilities and existing realities. The realities of today are that, despite these positive internal and external developments, the Soviet Union currently maintains a very substantial military presence in Eastern Europe. Despite the recent calls for the withdrawal of these troops by Poland, Czechoslovakia, and Hungary and movement toward a conventional arms control agreement, this situation will likely persist for the next several years. Additionally, the Soviets will likely continue to focus on modernized conventional and nuclear forces, on vigorous research in all aspects of technology, and on exploitation of space to support military operations so that the Soviet Union can enter the 21st century as a multidimensional superpower.

A new Soviet emphasis on quality over quantity characterizes one aspect of the evolving threat. The North Atlantic Treaty Organization (NATO) has long relied on the quality of its materiel to offset the Warsaw Pact's quantitative superiority. However, in a number of significant areas, Soviet ground force equipment matches or even exceeds the quality of the West's equipment. The Joint Chiefs of Staff (JCS) concluded in 1988 that the Warsaw Pact is modernizing in-place forces significantly faster than NATO and that the United States needs to "regain the qualitative advantage" in ground combat systems. This will continue to be the case even if the Soviet and non-Soviet Warsaw Pact force reductions in Europe continue as scheduled. Soviet forces in other theaters also continue to improve, although at a slightly slower pace.

A second evolving threat is the instability in Eastern Europe and within the Soviet Union itself. Recent events in Eastern Europe - the election of a noncommunist government in Poland, impending free elections in Hungary, the opening of the Berlin Wall and the change of government in East Germany, the change in leadership in Bulgaria and Czechoslovakia, and the violent overthrow of the regime in Romania - demonstrate the volatility of events within the Warsaw Pact. In the Soviet Union, the failure of *perestroika* to show positive benefits to the Soviet population and the success of *glasnost* in encouraging free expression have led to ethnic unrest in Azerbaijan, Georgia, and Armenia and to secessionist movements in the Baltic states and Moldavia. Western public reaction to *perestroika* and *glasnost* has been pronounced and favorable. It has focused largely on the potential benefits that may accrue, while underestimating the consequences of instability and existing Soviet capabilities.



Conflict in the developing world is becoming more deadly. A SCUD surface-to-surface missile is paraded in Iran.

The situation in the Third World is also potentially unstable. Conflict that could threaten U.S. security interests is an all too frequent occurrence within and among many developing countries. The military forces of many of these nations are now armed with up-to-date, lethal weapon systems. Over a dozen developing countries possess more than a thousand main battle tanks. The Iran-Iraq war, in which an estimated one million people died, shows the destructiveness of modern warfare even between developing countries. That same war saw the use of chemical weapons and surface-to-surface missiles. Other nations in the developing world now possess or are seeking to obtain similar capabilities. This development, combined with the possibility of nuclear proliferation, will make warfare in developing countries a more dangerous proposition.

In addition, insurgencies and terrorism directed against U.S. citizens and property around the world have not abated. These problems are sometimes compounded by an increasing flood of drugs from many of the same countries that harbor terrorists and insurgents. Drugs also confront the Nation with a menacing and difficult-to-combat challenge. Terrorism and drug trafficking often combine to form a particularly sinister threat.

The Soviet Threat

The announced implementation of a 500,000-man reduction in Soviet forces along with cuts in divisions, tanks, and artillery are steps toward producing a meaningful reduction in Warsaw Pact offensive capabilities. These announced reductions, coupled with President Gorbachev's domestic agenda, suggest that there is pressure to reduce the near-term commitment to defense programs that consume a high percentage of the Soviet gross national product. Several Warsaw Pact countries are following the Soviet Union's lead in scaling back their forces, and further cuts can be expected under current arms control initiatives. Additionally, the Soviets currently are negotiating the withdrawal of their forces from some Warsaw Pact countries.

However, Soviet leaders have not abandoned nor have they substantially slowed the pace of their modernization. Soviet military forces continue to improve in quality and overall combat capability concurrently with President Gorbachev's announced force withdrawal and restructuring program.

Thus far, the Soviets appear to be carrying out their announced reductions. The Soviets claim to have reduced their active inventory by over 7,000 tanks, 3,000 artillery pieces, 700 aircraft, and 500 tactical nuclear weapons while completing a reduction in military manpower of 235,000. Although all these cuts are not assured, such reductions, combined with the Soviet Union's new defensive doctrine, make it increasingly unlikely that the Soviets could quickly mount decisive offensive operations.

The Soviet Union is, however, upgrading its residual forces, modernizing the remaining units while economizing on troop strength and materiel. Carefully orchestrated restructuring and modernization have led to qualitative improvements in Soviet forces. Even after the unilateral reductions, the approximate Warsaw Pact-to-NATO advantage in Europe will be nearly 2.5:1 for tanks and well over 2:1 for armored personnel carriers and infantry fighting vehicles. Many of these combat vehicles will be the most modern in the Soviet inventory, including the T-80 tank and the BMP-2 infantry fighting vehicle.

Other recent improvements in Soviet forces include:

- Deployment of ground-attack and air-to-air combat-capable helicopters;

- Fielding of the Flanker and Fulcrum aircraft and the SA-11 and SA-12A missile systems, thus improving both offensive air and air defense capabilities; and

- Fire support modernization in the form of highly accurate short-range ballistic missiles (SS-21, 100 km range), BM-22 220 mm multiple rocket launchers, and improved self-propelled cannon systems.

While the existing threat to NATO will have decreased somewhat as a result of the unilateral reductions, parity will not be achieved with the Warsaw Pact until after the implementation of a Conventional Armed Forces in Europe (CFE) agreement.

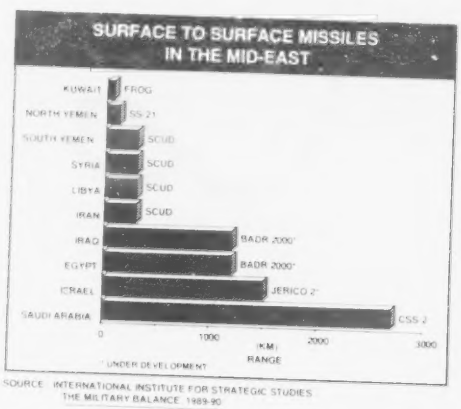
The Army must be prepared to meet Soviet or Soviet-backed forces outside Europe as well. While there are indications that the Soviets are withdrawing some forces from overseas bases, they have effectively expanded air and sealift for ground forces. Further, the Soviets continue to rely on arms exports as a major source of influence in the developing world. Moscow remains the largest supplier of weapons to Third World countries. Such sales create dependence on Soviet sources for spare parts, technical assistance, and training.

In sum, while there are encouraging signs of change to the Soviet military threat worldwide, and while President Gorbachev appears irretrievably committed to reducing the international and internal economic burdens of the Soviet military, it will be some time before the final results of his efforts are manifest. Factors such as the transition to quality over quantity in the Soviet military, continued Soviet force modernization, the internal instability resulting from the ineffectiveness of *perestroika* and the success of *glasnost* - in short the overall uncertainty of the success of President Gorbachev's reforms - suggest a cautious policy for dealing with the Soviet threat over the near term. Enduring political and social differences between the United States and the Soviet Union, regardless of the outcome of *perestroika*, mean that some form of competition between the superpowers will likely continue into the next century.

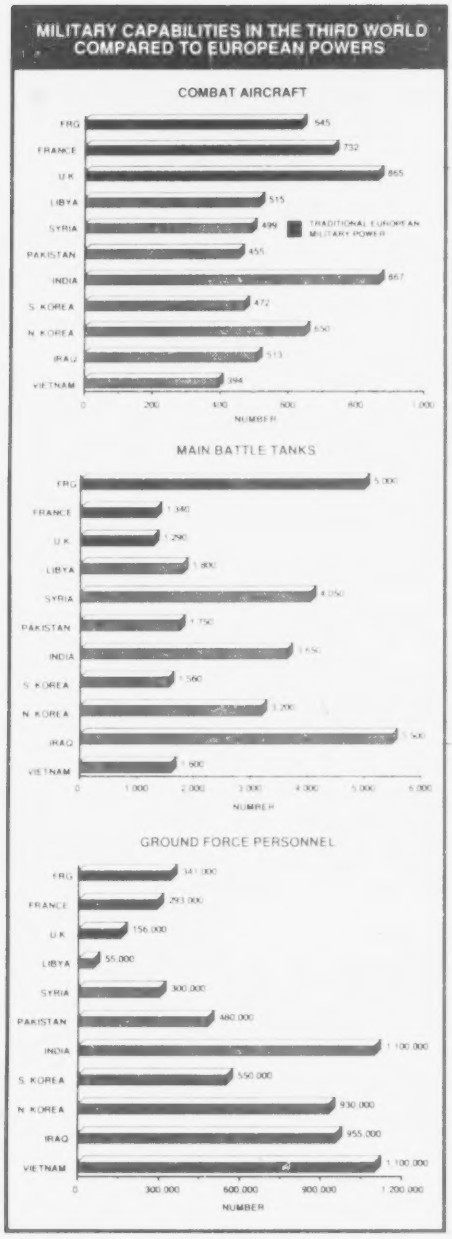
Trends in Developing Countries

Developing countries have undergone a dramatic qualitative and quantitative expansion of their military forces. Perhaps the best example of this trend is India, which has a large number of T-72 tanks for its ground forces, two aircraft carriers and a nuclear-powered submarine in its navy, as well as a very modern air force with MiG-27 and MiG-29 fighters. Many other developing countries have very capable armed forces. In general, increasing numbers of precision munitions, fire-and-forget antiarmor and air defense weapons, sophisticated signal and communications equipment, and motorized and mechanized systems are available to them.

Chemical weapons are rapidly becoming low-cost weapons of mass destruction for poorer nations. These weapons are neither difficult nor expensive to produce. The Iraqi and Iranian use of chemicals in the Gulf War is likely to encourage other combatants to use these weapons.



SOURCE: INTERNATIONAL INSTITUTE FOR STRATEGIC STUDIES THE MILITARY BALANCE 1989-90



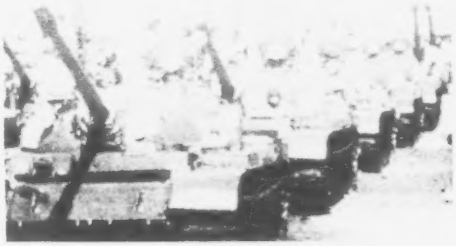
SOURCE: INTERNATIONAL INSTITUTE FOR STRATEGIC STUDIES, THE MILITARY BALANCE, 1989-90

In regions like the Middle East and South Asia, countries with a history of extreme hostility toward one another are developing the capability to deliver nuclear, chemical, and sophisticated conventional warheads on each other's homeland by surface-to-surface missiles. Countries are acquiring this capability in part by purchasing missiles from abroad and in part by developing their own. Missile proliferation will seriously affect the ability of nations to restrict the spread of conflict in future crises.

In Latin America, Cuba and Nicaragua continue to improve their military capabilities. Even with President Gorbachev's new emphasis on reducing conflict with the United States, the Soviet Union continues to support the Sandinista regime and to provide assistance to Cuba. The Soviet Union and Cuba continue to encourage Marxist movements in Latin America to destabilize governments and threaten U.S. interests in the region. Although there are indications of a slow down, the Soviet Union maintained the flow of military and military-associated equipment deliveries to Nicaragua in 1989 at the same average rate as in the last 3 years.

Central and South America are particularly burdened with weak economies, massive debts, poverty, and ethnic rivalry. Violence and instability hinder the development of democratic social and political institutions and economic growth. The combination of guerrilla groups and organizations producing and trafficking in narcotics significantly adds to these countries' formidable problems.

In the past decade, Asia has become increasingly more economically important to the United States, making regional stability vital to U.S. national interests. Although Soviet forces have left Afghanistan and the Soviets are withdrawing some forces from Vietnam, threats to U.S. interests in Asia remain. The Philippines continues to be plagued by a strong communist insurgency and unrest within the military. Cambodia is in a state of factional strife following the withdrawal of Vietnamese troops. Although it is temporarily hampered by serious economic problems, Vietnam could threaten its neighbors again. The Korean peninsula remains tense



The Sandinistas parade tanks in Nicaragua.

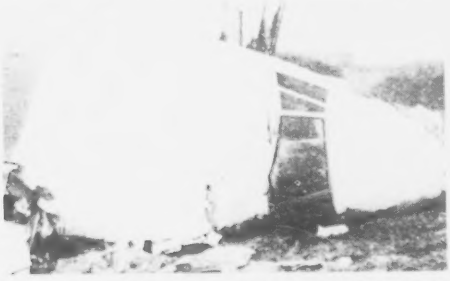
with over one and one-half million men under arms and with great pressure on the South Korean government to speed progress toward reunification. The People's Republic of China's liberalization is stalled, and its policies are in a state of flux as its leaders attempt to reach a consensus on the country's future direction.

In short, trends in the developing world hold great potential for increased instability. The next century could see a doubling of the present global population of five billion, with almost all of the increase occurring in the poorer nations. This population growth makes steady economic growth essential. However, in many instances, economic development must be achieved against a backdrop of inadequate infrastructure, a stressed environment, and a stock of natural resources nearing depletion. These conditions promote instability, provide fertile soil for insurgency, and are potential sources of regional conflict. When considered in light of the proliferation of modern arms, the situation in the developing world poses significant threats to U.S. vital interests worldwide. Under these circumstances, isolationism in any form is no longer a viable policy option.

Terrorism and Drugs

International terrorism is likely to continue as a primary threat to U.S. policies, citizens, and military in the decade of the 1990s. Not constrained by political frontiers and aided by relatively easy access to many types of arms and munitions, the international terrorist can strike across the globe virtually at will. In some instances, nation states employ terrorist groups as tools to advance foreign policy. In others, radical groups and unprincipled governments employ terrorism to destabilize opponents and to exact political and economic concessions. Combatting terrorism will remain a vital Army mission.

Premeditated murder and indiscriminate bombings are prominent terrorist tactics. The bomb that destroyed Pan Am flight 103 over Lockerbie, Scotland, on December 21, 1988, caused the deaths of all 259 passengers and crew and 11 people on the ground. There were 12 soldiers and 6 military family members among the victims. During 1988, the last year for which complete figures are available, there were 14 terrorist incidents directed against military targets. These resulted in the deaths of 2 U.S. military personnel (a U.S. Navy officer in Greece and a U.S. Navy enlisted woman in Italy), injuries to 15, and the taking hostage of a U.S. Marine Corps officer in Lebanon, who was apparently subsequently murdered. Attacks against the U.S. military continued in 1989. The assassination of U.S. Army Colonel James N. Rowe in the Philippines on April 21, 1989, is but one example. To the extent that American lives or property are threatened or involved in terrorist incidents overseas, U.S. forces must be prepared to act quickly. The continuing terrorist threat has caused the Army to tailor selected forces for counter-terrorist operations in a variety of operational environments and to adopt increased and costly anti-terrorist measures to protect soldiers and their family members worldwide.



The remains of the forward cabin of Pan Am Flight 103 lie on the ground at Lockerbie, Scotland after the aircraft was destroyed by a terrorist bomb.

A jungle cocaine laboratory seized by Colombian police and military forces.

Terrorist groups also are becoming more involved in illegal narcotics trafficking in Latin America. This compounds the threat of terrorism because it offers lucrative sources of revenue while providing a worldwide smuggling network for procuring sophisticated arms and explosives. The President and Secretary of Defense have made countering illegal drug trafficking a high priority mission for the Department of Defense (DOD) and the U.S. Army. The Army fully recognizes the magnitude of this threat and is approaching this mission with the same dedication and resolve applied to more traditional Army missions. The danger to American citizens could grow as the U.S. government steps up its campaign against drugs. For example, while the cause of the crash is still being investigated, drug cartels are suspected of causing the crash of Avianca Flight 203 outside Bogota, Colombia, on November 27, 1989, killing all 107 passengers and crew. If this suspicion proves true, this represents a significant increase in the threat posed by narcotics traffickers.

Technology Transfer

To maintain an effective force in an era of increasingly sophisticated weapons, the Army relies on

high technology to provide decisive advantages over increasingly sophisticated adversaries. The Army's quality weapon systems are effective only as long as the United States maintains a technological lead over potential foes. A key to maintaining that lead is preserving the security of vital components of a weapon's hardware as well as the methodologies in the research and development phase required to produce the system. In recent years, illegal transfers of advanced U.S. technologies have saved the Soviet Union billions of rubles and hundreds of man-years in research and development costs alone.

Through two programs, Weapon Systems Technical Assessment and Advanced Technology Assessment, the United States is identifying crucial components of critical technologies to pinpoint those advances requiring special protection, thereby permitting more prudent technology transfer. The programs allow the United States and its allies to realize the payoffs from increased cooperation in weapons development and acquisition while minimizing the risk of the transfer of sensitive technology to potential adversaries.

Hostile Intelligence Services (HOIS)

Despite *glasnost*, or perhaps because of it, Soviet intelligence services appear to have intensified efforts to extract technology and classified information from the United States. Using a vast array of assets, from high-technology satellite sensors to on-the-ground human intelligence collection, foreign intelligence services target the U.S. Army, searching for information and vulnerabilities. In FY89, Army counterintelligence investigations revealed 175 incidents of highly probable HOIS involvement. Four Americans and three foreign nationals were subsequently arrested for intelligence activities directed against the Army. The Army will meet the challenge of espionage in the 1990s through the use of modern security and computer systems and an effective security program.

Conclusions

There is surely reason to be optimistic that the Soviet Union can become a more open and pluralistic society, significantly reducing the size of its excessively large land forces and more clearly embracing the concepts of human rights and democratic political institutions. History suggests, however, that there are equal grounds for caution.

There is potential in the Soviet regime for a retreat from reform and openness and a return to a closed society that again confronts the external world. This potential is not limited to the Soviet Union. The domestic turmoil that often accompanies vast social restructuring is aggravated throughout the Warsaw Pact by ethnic conflict, economic inefficiency, and political instability. This turmoil alone creates uncertainties about the future intentions of the Soviet Union toward its neighbors and the West.

Moreover, despite the Soviet Union's announced unilateral cuts, the United States and its NATO allies will continue to face a severe force imbalance until the implementation of a CFE agreement. Meanwhile, advances in Soviet military technology and overall force modernization continue. Even if the Soviets reduce the size of their army and the quantity of their defense production in the 1990s, NATO will face a higher quality Soviet force with more powerful individual units designed for flexible offensive and defensive operations. A major lesson of the successful Intermediate-Range Nuclear Forces (INF) Treaty negotiations is that U.S. and NATO force deployments and modernization provide irreplaceable incentives for the Soviets to negotiate in good faith. The United States and its allies must continue to apply this lesson, especially over the next few years, to the negotiations on reducing conventional forces in Europe.

For the foreseeable future, therefore, deterrence and defense against potential Soviet and Soviet-supported military action in Europe and elsewhere will remain the most demanding challenges for the United States and its allies. In the years ahead, the West must be patient and vigilant, carefully examining Warsaw Pact military developments and bearing in mind that capabilities, not intentions, decide the outcomes of battles and determine the fates of nations.

The expansion of military power in the developing world presents new challenges to the United States. Conflicts there can pose clear threats to U.S. security interests, and the precise time and location of these occurrences are largely unpredictable. The underlying causes of these conflicts exist within the developing nations themselves and will not necessarily diminish even if Soviet international behavior continues to moderate. Indeed, as more developing countries gain significant military capabilities, they may resort more readily to force in settling local disputes.

But the obvious challenges in the developing world should not lead us to ignore the opportunities that also are present. Not only does the United States have a wide range of economic and political interests it can pursue with these countries, it also has considerable potential for enhancing mutual security. Security assistance and army-to-army initiatives provide ideal vehicles for advancing host country and U.S. interests. The continuing challenge will be to reconcile economic and defense concerns.

International drug trafficking, terrorism, insurgency, and subversion of legitimate democratic regimes will continue to pose serious threats to U.S. interests. These low intensity conflicts can undermine important allies and other friendly nations, impede the development of democratic institutions, and hamper essential U.S. economic and military ties. The dangers of low intensity conflict, and particularly of terrorism, are magnified by the increasing worldwide availability of sophisticated explosives and weapons. Precision-guided munitions are

becoming available through illegal arms markets and from states supporting international terrorist organizations. Terrorist use of the ultimate weapons of mass destruction - chemical, biological, and nuclear arms - is not inconceivable. Clearly, low intensity conflict is the security challenge most likely to demand a short-notice U.S. military response in the future.

Supporting the National Military Strategy - Continuity and Change

The post-World War II Western strategy of forward defense and flexible response has achieved unprecedented success. The world has witnessed four decades of peace between the superpowers. U.S. allies in NATO have developed strong economies, and vast regions of the Americas, Africa, and the Middle East are now advancing politically and economically. The changes taking place in the Soviet Union and throughout Eastern Europe are, in part, a testament to the success of this strategy and to the inescapable attraction of freedom, democracy, and market-oriented economic systems. Success should not, however, cause the hasty discarding of the basic elements that have made this strategy work. Rather, it should lead to the evolutionary adaptation of the current strategy to meet both traditional challenges as well as the new threats and unique opportunities of the future.

For example, for the past four decades the Army has maintained strong forward-deployed forces as a deterrent to potential aggressors. Clearly, for the near term, these requirements should continue, although probably reduced in scope, as the United States adapts to the changing realities of the strategic environment. Similarly, in maintaining the capability to meet threats throughout the world, the Army cannot abandon the requirement, remote as it may seem as this is being written, of being able to defeat the heavy armored forces of potential adversaries . In the future, the Army must be able to deploy rapidly worldwide with the right mix of forces to conduct a range of operations from security assistance to all-out war. Hence, Army forces must be trained and ready not only to fight on the plains of Europe, but also to operate in the developing world where political and economic ambiguities will complicate conflict.

The Army must also be prepared to contribute to solving critical nonmilitary or paramilitary challenges to the country's security. America's future Army should be as competent in dealing with low intensity conflict in the developing world, providing security assistance, and supporting civil authorities, especially in the war on drugs, as it is in deterring and defeating today's external military threats.

The Army's Strategic Roles

The Army provides sustained land combat power to defend the Nation's interests and to protect the values on which the United States was founded. U.S. military strategy is designed to deter war, to limit the spread and escalation of conflict should deterrence fail, and to terminate such conflict on terms favorable to the United States and its allies. It rests on the enduring tenets of forward defense, coalition warfare, and flexible response. Flexible response is based on the ability to respond to aggression with a wide variety of options and requires a full range of military capabilities to counter threats to U.S. interests.

The United States relies on the Army to fulfill essential strategic roles in support of the national military strategy. The Army provides forward-deployed forces ready to respond immediately to protect U.S. interests in critical areas of the world. Army combat-ready contingency forces with forced-entry capabilities allow the United States to insert multiple corps-size units into threatened areas around the globe. Should regional or global conflict occur, forward-deployed and contingency forces can be quickly augmented for sustained land combat by reinforcing forces maintained in the United States.

ARMY STRATEGIC ROLES

- Provide forward-deployed ground forces for deterrence, sustained land combat, and conflict termination in areas of vital interest
- Maintain combat-ready ground forces -- heavy,light, and special operations -- in CONUS for immediate contingencies worldwide
- Maintain forces in CONUS able to reinforce forward-deployed and contingency forces
- Participate in disaster relief, emergency assistance, and interdiction of illicit drug traffic
- Provide support to allied and friendly nations through peacekeeping, security assistance, and army-to-army initiatives

Army theater nuclear forces provide the essential link between conventional forces and intercontinental nuclear forces. The Army also provides regional peacekeeping forces and security assistance to allies and friends around the world and stands ready to fulfill its traditional role of supporting civil authorities.

These diverse Army roles will continue to serve U.S. defense needs in a complex and continually evolving international environment. The Army must retain these roles as it shapes the Army of the future.

Global Focus

U.S. vital interests are increasingly linked with those of allies and other friendly nations around the globe. Consequently, the United States has sought to develop and sustain collective security alliances against mutual threats. These alliances seek to deter war while maintaining a secure environment within which the United States and its allies and friends can pursue legitimate interests.

Finite Army forces are not capable of defending with appropriate strength simultaneously against every threat. Multinational security relationships allow the United States to conserve its resources while increasing the capability to deter and, if necessary, to fight by combining U.S. activities with those of friends and allies. Effective security relationships maximize available forces, reduce the risk of involvement of U.S. forces, and increase cooperative defense measures. In support of these relationships, the United States maintains forward-deployed forces to expedite timely U.S. and allied responses to threats and to serve as a visible manifestation of U.S. resolve and commitment to protect Free World interests. The Army's aim is to maintain the proper mix of forces, unilaterally or in conjunction with allies and friends, to deter and defeat aggression when and where required.

The Army provides forward-deployed forces. . .

. . . as well as combat-ready ground forces for immediate deployment worldwide.

NATO

NATO has been the most successful peacetime alliance in history, maintaining the peace in Europe for over 40 years. Europe's extensive historical, economic, and political ties to the United States make its security a vital U.S. concern. U.S. activity within NATO is an important element in the U.S.'s overall relationship with the other 15 nations which make up the alliance. The requirements of NATO defense plans generally serve as the preeminent guide for executing regional U.S. military strategy against the Soviet and Warsaw Pact threats. The combined military capabilities that can be brought to bear by the nations in Europe as a result of NATO far outweigh what any one country could contribute.

The Army works within NATO to refine combined U.S. and NATO army doctrine and tactical concepts, to achieve procedural and materiel standardization and interoperability, and to improve intelligence sharing and combat-sustainment abilities. The Army continues to seek expanded host nation support contributions from NATO nations and to foster improved military-to-military relations.

The conclusion of the INF Treaty, recent events in Eastern Europe, and the progress of the CFE talks

The Army maintains a major commitment to NATO.

have led to a lowering of the level of confrontation in Europe and to increased expectations of defense savings among NATO populations. The task of reaching and implementing a successful conventional arms control agreement is still before the alliance. It will require that the United States work closely with its NATO allies, especially in ensuring that the adjustments in individual country's defense policies continue to contribute to collective security. Whatever the outcome of CFE, the Army will continue its effective cooperation with the allies to maximize their contribution to the common defense.

East Asia and the Pacific

There are no alliance systems like NATO in the East Asia and the Pacific region. There are instead a number of bilateral and regional ties, some involving separately the United States, the Soviet Union, or China.

The Army maintains forces in Korea.

Army forces conduct exercises in Australia.

The diverse geopolitical and military characteristics of the East Asia and the Pacific region make assessing the military balance there far more difficult and different than making the assessment in Europe.

While the conclusion of the INF Treaty, which will remove some Soviet missiles from Asia, was welcomed by Asian nations, they remain concerned with the Soviet conventional force structure in the region, especially naval and air power. U.S. allies and friends are also attentive to the areas of tension in the region, particularly Indochina and the Korean peninsula.

National security objectives in the region include sustaining U.S. influence throughout the area, ensuring access to critical strategic materials and markets, and providing a counter to Soviet power. The United States carries out its strategy in East Asia and the Pacific through bilateral defense treaties and forward deployment of forces. The primary security relationships are with Japan, the Republic of Korea, the Philippines, Thailand, and Australia. The major forward deployment of U.S. Army forces remains in the Republic of Korea.

The Army works within these bilateral agreements to improve combined doctrine, tactics, and overall interoperability. The Army also seeks to enhance U.S. and foreign military relations and intraregional cooperation among the nations as well as to acquire regional and host nation support for U.S. activities in the region.

U.S. and allied forces in East Asia and the Pacific are capable of responding effectively to regional conflicts for the foreseeable future. The United States will continue to improve its military relationships with its friends in the region to ensure the continuation of bilateral defense ties and the promotion of democracy.

Latin America

In Latin America, U.S. relations are governed by U.S. foreign policy, strategic interests, and bi- and multilateral treaty commitments. The latter include the Inter-American Treaty of Reciprocal Assistance, also known as the Rio Treaty, which established the

Organization of American States and the Inter-American Defense Board, in which member nations condemn war and agree to come to each other's assistance if attacked; the bilateral U.S.-Panama Canal Treaties, which provide for defense of the canal, turnover of the canal to the Republic of Panama by the end of 1999, and the continued neutrality and use of the canal by all nations; and the U.S.-Honduran Security Agreement of 1954, which promotes bilateral cooperation.

U.S. objectives in Latin America seek to support democracy and economic development. The United States counters Soviet, Cuban, and Nicaraguan adventurism by maintaining U.S. influence and ensuring access to strategic lines of communication, materials, and markets. Military-to-military contacts with countries in the region vary. The Army works within existing agreements to improve combined doctrine, tactics, and training. It also provides appropriate low intensity conflict training to strengthen the self-defense capabilities of countries facing internal threats. Strengthening military cooperation to reduce the flow of illicit drugs into the United States is an increasingly important aspect of U.S. relations in the region.

Middle East and South Asia

The diverse geopolitical situation in the Middle East and South Asia region makes it difficult to predict the exact form that threats to U.S. vital interests in the region will take. The region remains a highly armed camp with almost daily occurrences of terrorist violence, an uneasy truce in the Iran-Iraq war, and a simmering Islamic fundamentalist movement that threatens the internal stability of moderate states. Army relations with countries in the Middle East are governed by U.S. foreign policy and strategic interests and by a declaration of ommitment to the region's peace, stability, and security. The soldiers who serve in Egypt's Sinai Peninsula as members of the United Nations Truce Supervision Organization and the Multinational Force and Observers are visible symbols of the Army's commitment to peacekeeping in the Middle East. The Army remains prepared to participate in appropriate uses of military force to maintain access to Persian Gulf oil. Army relations with nations in South Asia are limited, with the exception of Pakistan, where activities are based primarily on security assistance.

Soldiers patrol as part of the Army's peacekeeping operations in the Middle East.

Little change is anticipated in the Army's future role in the Middle East and South Asia, although Army participation will certainly continue in security assistance, multinational peacekeeping operations, and combined exercises.

Africa

In Africa, U.S. relations are governed by the U.S. commitment to promote sustained and equitable economic and social development as the keys to a stable, peaceful, and secure Africa. The United States seeks to counter destablizing and counter-productive foreign influences by assisting the region's governments in protecting their natural resources and supporting internal reconciliation and development efforts to promote the continued growth of democratic values.

Burdensharing

Fiscal pressures and competing demands for resources within the United States have led to questions about the equity of America's contribution to collective defense arrangements. These discussions have the potential to lead to an even stronger collective defense, but they could also become an avenue to unilateral actions that could bring about the opposite effect.

Burdensharing is a complex alliance issue with no easy solutions. There is no agreed-upon formula to compute and measure a nation's fair share. Some forms of burdensharing, such as defense outlays, allow for precise calculation, but other less tangible but important contributions defy quantification. Invariably, any burdensharing measurement is incomplete and subject to interpretation through a prism of perceptions.

The challenge is to work with allies to develop a concerted strategy that will lead to a more cost effective and fair sharing of the roles, risks, and responsibilities of collective defense while always maintaining an effective deterrent. Recent U.S. and allied discussions on burdensharing have brought about increasingly positive allied responses. The allies recognize the seriousness of the issue and the need to establish a more equitable sharing of the common defense. However, significant increases in allied defense budgets in the near to mid-term will con-

tinue to be difficult and, in some cases, are unlikely, especially in light of events unfolding in Eastern Europe. Mutual benefits can, however, be achieved through cooperative efforts in research, development, and armaments production; logistic sustainment programs; better alignment of doctrine and equipment; role specialization; and host nation support programs.

While financial savings may be realized through burdensharing arrangements, cost reductions should not be the principal goal. Burdensharing agreements that inequitably tax one nation or result in reductions in capabilities for defense can undermine collective security and must be avoided. The Army, particularly in developed areas of the world, is dependent upon the intricate network of agreements with host nations that comprise a major part of burdensharing.

Army International Activities Plan (AIAP)

The AIAP establishes the methods and means the Army will use to enhance activities that involve U.S. Army interactions with the armed forces, governments, and industries of foreign nations. International activities support U.S. military strategy by seeking to deter war and reduce the potential for armed conflict, while maintaining a secure environment within which the United States and its allies and friends can pursue legitimate interests. Successful international activities strengthen army-to-army relations, promote allied and friendly support of U.S. foreign policy and military strategic objectives, and lower U.S. force requirements to meet regional contingencies.

The AIAP recognizes the realities of change in the politico-military environment, the evolving threats to U.S. interests, and the diminishing availability of national defense resources. It supports international activities that seek to develop and sustain collective security

The Army seeks to build strong relationships with the armed forces of friends and allies. U.S. soldier learning how to fire a German machine-gun.

U.S. troops on an exercise with Turkish soldiers

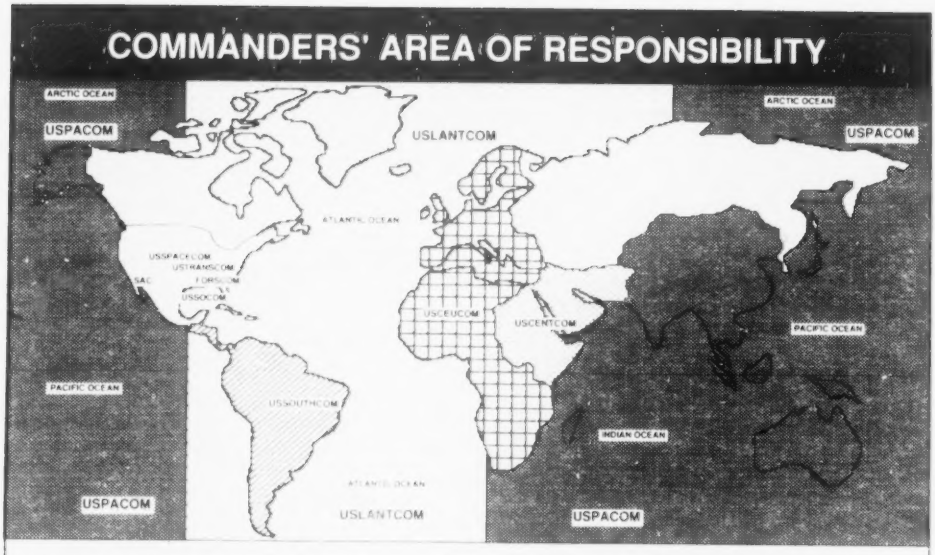
alliances and to strengthen allied and friendly nations' defense against internal and external aggression. The plan's activities also foster support for forward-deployed forces as a symbol of U.S. resolve and to facilitate timely U.S. and allied responses to aggression. Army international activities include cooperative research, development, acquisition, and production; information and data exchanges; international logistics; personnel and unit exchanges; training and exercises; politico-military actions; rationalization, standardization, and interoperability; and security assistance.

The AIAP integrates the diverse worldwide international activities of the Army and provides centralized planning at the Army level with continued decentralized execution at the regional Army component command level. Centralized planning ensures that activities are commensurate with U.S. strategic objectives and a country's importance to U.S. interests and that activities selected offer the greatest return for the resources expended.

Supporting the Theater Commanders-in-Chief (CINCs)

CINCs have responsibility, through the Chairman, JCS, and the Secretary of Defense to the President, for employment of U.S. forces in their respective theaters. The Army prepares and provides forces through the Army component commanders for the CINCs to carry out their war and peacetime missions.

To prepare and maintain sufficient forces, the Army must plan for and allocate its resources through



several short- and long-term planning, programming, and allocation processes. The CINCs have an important voice in Army and DOD program formulation by contributing their views and priorities at several stages of program review.

The most important of the Army's planning and programming processes are:

- The Army Long-Range Planning Guidance, which formulates broad direction for the Army's activities for the next 30 years;

- The Army Plan, which describes resource allocations for the next 7 years and projects resource guidance for the next 15 years;

- The Program Objective Memorandum, which declares resources for specific programs for the next 6 years; and

- The Army Budget, which provides funds for all Army activities on a biennial basis.

In addition to outlining their priorities in these Army processes, the CINCs also provide a comprehensive overview of their theater requirements in the Integrated Priority List. The list reflects the assessment of the theater threat and consequent degree of risk resulting from the level of forces allocated to meet the threat. In the difficult process of providing trained, equipped, and ready forces, the Army weighs heavily the requirements of the theater CINCs.

Additionally, the Army, in conjunction with the other services, has made significant strides in joint force employment planning and joint force development. The recent contingency operation into Panama was a clear demonstration of the improvements that have been made in the planning, deployment, and employment of joint forces as a result of the renewed emphasis on joint operations.

Arms Control

The concepts of forward defense and coalition warfare are central to the military component of U.S. national security strategy. A third component, combining both political and military aspects of national security planning, is arms control. Arms control policies, when developed with deliberate care and pursued with a prudent appreciation of the inherent risks, complement U.S. and allied efforts to secure a more peaceful world.

The benefits of arms control are demonstrated by the INF Treaty, which entered into force on June 1, 1988. The treaty provides for elimination within 3 years of all U.S. and Soviet ground-launched cruise and ballistic missile systems in the range of 500-5,500 kilometers. Both parties have conducted extensive on-site inspections and elimination activities since the treaty entered into force.

The INF Treaty is particularly noteworthy because of the U.S. arms control objectives and procedures it supports:

- Elimination of an entire class of Soviet and U.S. missiles, including a ban on their deployment, storage, testing, or production;

- Asymmetrical reductions to equality through greater Soviet reductions because they possess higher force levels; and

- Unprecedented verification provisions, including detailed INF data exchange at specified intervals; on-site inspections; a flight test ban; and a prohibition on interference with monitoring by national technical means.

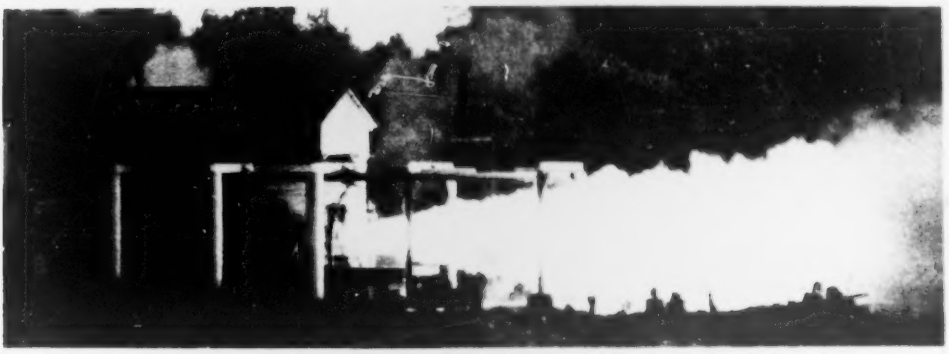
The 1986 Stockholm Document of the Conference on Confidence and Security Building Measures and Disarmament in Europe, or CDE as it is better known, has also contributed significantly to improved mutual understanding among armed forces in Europe. CDE provisions have permitted all 35 participating nations to observe each other's military forces and activities, thus improving familiarity and certainty in assessing intentions. This has been a key element in the relaxation of tensions and the building of greater trust and confidence among the military forces of NATO, the Warsaw Pact, and the neutral and nonaligned nations of Europe.

The Stockholm Document provides for the exchange of annual calendars of planned military activities, the notification of military exercises 6 weeks prior to their being conducted, observation of large-scale military activities by observers from all participating states, and on-site inspection of suspicious activity without the right of refusal. This agreement was the first in a conventional arms control process that could result in significant reductions in the levels of armed forces in Europe, thus reducing the risk of war.

Parallel to CDE, in March 1989 NATO began negotiations with the Warsaw Pact on the reduction of conventional armed forces in Europe, the CFE talks. If successful, CFE will enhance national security by reducing the levels of armaments and the risk of war in Europe through highly asymmetric Warsaw Pact reductions in tanks, artillery, armored troop carriers, helicopters, and combat aircraft. The Army continues to support fully a rapid conclusion of these negotiations consistent with U.S. and allied security requirements.

In the area of chemical weapons (CW), the Army fully supports the U.S. national policy of achieving a comprehensive, truly global, and effecuvely verifiable ban on CW. Toward that goal, a CW treaty was tabled in April 1984 by then Vice President Bush and is being negotiated by the 40-nation Conference on Disarmament which meets in Geneva twice a year. The Army interest is to deter chemical warfare during the transition to a global ban. A viable CW deterrent is comprised of both an effective chemical defense and a safe retaliatory capability. This requires maintaining both a force equipped and trained to operate in a chemical environment and a binary CW stockpile for retaliation. U.S. forces cannot afford to be subjected to the threat of CW attack or, worse, be forced to assume a chemical defensive posture without having the ability to retaliate in kind.

The United States and the Soviet Union are presently the only declared possessors of CW; however, there are many states which have not declared that they have CW but possess this capability, some of which have used CW during recent military conflicts.



A Pershing missile motor is destroyed by igniting it as required by the terms of the INF Treaty.

Proliferation of CW in developing nations will continue to be a major concern, and current verification and monitoring technology is insufficient to ensure compliance with a global ban. The Army believes that for a ban to be truly effective it must be verifiable and include more than just the United States and the Soviet Union. Until this can be satisfactorily achieved, the Army will continue to support the maintenance of a force capable of operating in a chemical environment and the possession of a modern CW deterrent stockpile as prudent preventive measures against CW use.

Complementary Operations

The Army conducts complementary operations in support of civil authorities and friends and allies throughout the world. Security assistance goes to nations around the globe in an effort to improve their military capabilities and to build contacts useful as avenues of communication with foreign leaders. Domestically, while the Army has traditionally provided assistance to civil authorities for such things as disaster relief, it has more recently taken on an expanded role in the Nation's counternarcotics effort.

Evolving Security Assistance Program

Security assistance is an essential element of the Nation's global defense posture and a component of U.S. foreign policy and military strategy. Security assistance policy requires the Army to be prepared to help friendly and allied countries strengthen their military capabilities through training, services, and the transfer of equipment. The program also assists friendly regional forces to modernize their equipment. Other Army security assistance activities, such as professional military exchanges, exercises, surveys, and training teams, improve the professionalism of friendly ground forces and establish channels of communication with foreign military leaders and government officials.

The U.S. security assistance program has undergone a series of steady and deep cuts in aggregate funding levels over the last several years. These cuts and earmarking have prevented the administration from allocating adequate security assistance resources to several countries, especially those in Latin America and Africa, that are strategically important to U.S. national security and the Nation's warfighting strategy. This situation creates the danger of eroding friendly nations' confidence in the United States and offers an invitation to adversaries to pursue global adventures.

It is imperative that the security assistance program be adequately funded and sufficiently flexible to ensure its contribution to U.S. strategy. A successful program will promote deterrence and stability in those developing countries facing low intensity conflicts. To achieve these goals, the Army supports providing adequate resources and flexibility to satisfy the requirements of the security assistance effort.

In addition, the Army will work with the other services to ensure that military support to security assistance is as efficient and effective as possible and supports national goals. In Latin America, the Army will provide military and law enforcement assistance to Bolivia, Colombia, and Peru in order to stop the production of drugs and their exportation to the United States. This assistance will consist of training for law enforcement units engaged in anti-drug efforts as well as instruction for military personnel in the operation and maintenance of U.S.-furnished military equipment. The United States also will make available to these Andean countries excess equipment for their military units so they can participate with local law enforcement agencies in a comprehensive national counternarcotics program.

Counter-Drug Effort

The international violence and instability caused by the illicit drug trade pose a direct threat to U.S. national security, values, and institutions. Army personnel and units are participating or assisting in every facet of the national counter-drug program. Every day more than 800 soldiers perform counternarcotics missions. In FY90, the Army expects to expend almost $185 million on counternarcotics programs and equipment to support them. Army forces are being provided to the Unified Commanders to assist in the development and execution of counternarcotics plans. Personnel, equipment, training, intelligence, communications, and other required support is being provided to a wide range of civilian law enforcement and other U.S. governmental agencies, as well as selected foreign counternarcotics forces. Army forces have been providing training and support to anti-narcotics units in Latin America for some time. Some of the most notable of these efforts have been in support of the Colombian and Bolivian armed forces.

Within the United States, the Army provides assistance to the anti-drug programs of federal, state, and local agencies. The active Army has diverted unit train-

The Army is committed to help stop the flow of drugs, like this cocaine found by Colombian authorities under the deck of a small fishing vessel.

ing missions to the Southwest border where they support the U.S. Border Patrol. Army National Guard forces are supplementing the U.S. Customs Service in cargo inspection at sea ports, international air terminals, and border crossing points. They also assist in air and ground surveillance of illegal drug traffic, eradication of marijuana crops, and transportation of law enforcement personnel.

The Army's role in counternarcotics activities will increase as requirements are defined by the combatant commanders and law enforcement services. As counternarcotics missions increase, the Army will combine anti-drug operations with training for more traditional roles to achieve optimal readiness and allocation of resources.

Involvement in the national campaign against illegal drugs is consistent with the Army's role as a strategic force, fulfilling the overall mission of safeguarding the national security of the United States both at home and abroad.

Support to Civil Authorities

The Army provides valuable, yet often overlooked, support to civil authorities, especially in the area of disaster relief. The Secretary of the Army is the Executive Agent for the Secretary of Defense in the execution of designated DOD missions in support of civil authorities, and the Army has the preponderance of forces capable of rapid response to contingencies in the United States. While specialized training, such as fire fighting, may be provided by the requesting agency, in most cases normal Army readiness training will prepare individuals and units to accomplish assigned tasks. In the past year, Army forces were committed to five domestic emergency operations. Army support included providing personnel to fight forest fires in Oregon and Idaho; shelter, military police and medical assistance, and transportation following the earthquake in California; equipment to assist in the clean-up of the Alaskan oil spill; equipment and fresh water in the areas struck by Hurricane Hugo; and military police to restore order on St. Croix in the wake of the hurricane. The Army's response in these cases was swift and tailored to the requirement.

Over the past year the Army responded to a variety of requests for emergency assistance, including military police support after the earthquake in California.

Conclusions

Because of its geographic and political position in the world, the United States must rely on a coalition strategy, working in cooperation with allies and other friendly nations to protect mutual interests. The unprecedented period of peace in Europe and Northeast Asia demonstrates the strategy's success. Cooperation with other nations has also characterized U.S. actions in the Persian Gulf, the Middle East, Central America, and elsewhere.

The evolving international environment is, however, making alliance relations more complex, with several close allies emerging as leading economic powers in their own right. While the Nation cannot allow the combined stresses of economic competition and budget constraints to compromise shared interests, it is clear that changing political and economic conditions will affect allied security arrangements. The years ahead will likely witness an evolution in the sharing of defense burdens and risks among coalition partners.

As the complexity of the adjustments facing U.S. alliances grows, there will, however, be no substitute for the leadership that the United States has provided to the West. No other allied or friendly nation has, or is likely to develop, the necessary economic, political, and military power to replace the United States in that role. Nonetheless, the United States is not so independent that it can routinely act alone. It will continue to depend on the cooperation and support of allies and other friends, just as they will continue to expect from the United States the leadership it has provided since World War II. As such, NATO clearly will remain an essential instrument for promoting stability while Warsaw Pact countries attempt to reform their political and economic structures. A strong NATO will be a fundamental guarantor of U.S. interests, European stability, and continued peaceful relations between East and West.

The basic elements of U.S. post-World War II strategy will likely continue to guide the United States for some time. Consequently, forward deployment of combat-ready forces in places where U.S. interests require them will remain a key role for the Army. The scope of this role, however, may be reduced in the near future as a result of improved security and new arms control agreements. The challenge will be to ensure that deterrence, stability, and ongoing arms control negotiations are not undermined by premature or excessive reductions of forces or capabilities.

Other enduring Army roles will be those of maintaining contingency and reinforcing forces in the United States. These contingency forces must have a full range of military capabilities, for they furnish the Nation with flexible options needed to fashion appropriate

responses to challenges to U.S. security interests in trouble spots around the world. Forces in the United States must also be able to reinforce forward-deployed and previously committed contingency forces, ultimately backing them by the full mobilization of the military and industrial potential of the United States if required.

Support to allies and other friends around the world, in the form of peacekeeping operations, security assistance, and nation building activities, has been a historical Army role. Recently, this mission has acquired new meaning in view of the challenges to, and opportunities for, democracy in the developing world. The Army has also continued to support civil authorities in such areas as disaster relief and emergency assistance; and it has received new missions in the war on drugs.

Considering this array of challenges, the world of the future will not be any simpler nor necessarily any safer than it is today. Indeed, as the Army moves into the 1990s, it will confront a security environment that is demanding, diverse, and dangerous. These challenges will become more difficult in an era of scarce defense resources.

II. Shaping the Force - The Way Ahead

In shaping the force, the Army must adjust to the evolving international environment. Above, East Germans pour through the newly opened Berlin Wall. An American soldier in Panama during Operation Just Cause.

Determining a Direction

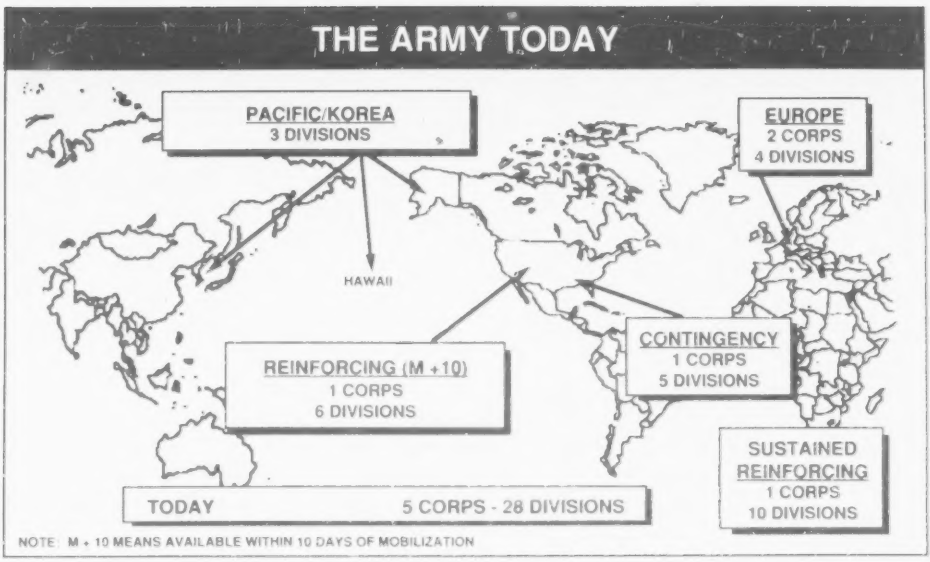
Some of the recent trends in the international environment have been apparent for some time; others have materialized unexpectedly. In 1988, the Army refocused its planning process to gain the initiative in adapting to the evolving global situation by developing a strategic concept for the Army of the future. This concept attempted to minimize risk to key national interests and to maintain flexibility in responding to changes in the international environment. It has provided the framework within which the Army has continued to evaluate the impact of strategic, threat, and resource developments on its programs. When faced with the fact of substantially reduced resource availability, at least through the mid-term, the Army used this framework effectively in the difficult process of posturing itself for a diverse and uncertain future.

Today's Army is the best trained and most ready peacetime force in the Nation's history. Over the past decade, it has undergone an extensive transformation that has prepared it well for the changes ahead. It is forward-deployed, and globally oriented. Its size and shape have been determined by the existing strategic environment, current doctrine, and past resourcing levels.

In evaluating the potential for a significantly reduced Soviet threat over the mid-term and sharply declining resources over the same period, three things became clear to Army planners: first, that the Army could not man, train, and equip its current 5-corps, 28-division force and the related support infrastructure while maintaining the indispensable quality of the force; second, that to reshape the force to counter the rapidly changing threat in a climate of declining resources, while maintaining a full range of capabilities to support the national military strategy, would require a clear vision of a mid-term force (size and capabilities) and a disciplined adherence to valid priorities; and, third, that during any reshaping of the force the Army must retain the capability to expand if the international situation changed radically.

The Army developed the mid-term force objective based on historical analysis of previous large Army restructurings, a careful assessment of the evolving threat, and a determination of the capabilities that the Army would require in 1995 and beyond. Past examples of demobilizations following World War II, Korea, and Vietnam indicated that the capabilities of the force declined markedly when the Army eliminated large numbers of soldiers from its ranks. The Army found, to the detriment of the Nation, that as a result of these lost capabilities Army forces suffered substantial and avoidable losses when committed to unanticipated combat. It was also noted that the requirement to reduce and restructure today's volunteer force would differ significantly from these past demobilizations.

Threat analysis indicated that, while there was cause for cautious optimism with regard to the future direction of the Soviet and Warsaw Pact challenges, other threats were becoming more likely and increasingly sophisticated. Finally, an analysis of the capabilities the Army would need to fulfill its strategic roles in 1995



concluded that, while its fundamental roles would not change over the mid-term, there was potential for change in the way these roles might be exercised. For example, given the continuation of the positive developments in the Soviet Union and Eastern Europe and implementation of a CFE agreement, it is likely that forward-deployed forces could be reduced. Further, the increased warning time that may result from reductions in Soviet forces west of the Ural Mountains could lead to changes in reinforcement criteria for forces based in the continental United States. The capability analysis also concluded that developments in the Third World would lead to an increased role for the Army in contingency operations (an assessment that proved correct in the recent Panama operation) and in complementary operations - disaster relief, interdiction of illicit drugs, security assistance, and support of civil authorities.

The Army of the Future

The force structure plans presented here are based on Army analysis of the evolving threat, both in Europe and elsewhere, and on the new budget realities. These plans will be subjected to scrutiny in the Total Force Policy Study and the FY92-97 Program Review before final DOD decisions on the future Army force structure are made.

The Army concluded that the Army of 1995 must be a smaller, capable force; forward deployed in sufficient strength to provide a credible deterrent and to demonstrate unambiguous U.S. commitment and resolve to its allies; globally oriented; and clearly able to execute worldwide contingency operations. It must have an appropriate mix of forces, be adequately modernized, and be fully trained and ready to respond on short notice.

The Army's current plan envisions a force in the mid-1990s of 4 corps and 23 divisions. Attaining this posture while maintaining the quality of the force will require reducing the active force structure and overseas presence (given appropriate international agreements), and modernizing with an emphasis on the future. To succeed in the evolving international environment, this force will require an Army with three fundamental qualities: tomorrow's Army must be versatile, deployable, and lethal.

A Versatile Army

The Army must be able to counter a wide array of potential and unpredictable threats with a relatively small force. The Nation cannot afford to maintain forces uniquely specialized for every conceivable geographical area and type of combat. Therefore, a highly capable, versatile Army with both forward-deployed and U.S.-based elements will be the most effective solution to worldwide requirements for ground forces. The ability to tailor force packages for specific missions without delays for retraining or mobilization will be critical. Versatility will require the right proportions of Active and Reserve Components, the correct mix of forces (heavy, light, and special operations), adequate sustainment stocks, and, above all, high quality in all aspects of the force.

In view of the rapidly changing international environment, the precise time, location, and nature of the threat will always be uncertain. Versatility demands intensive training and frequent exercises. For the Army

In the future, the Army must be versatile . . .

of the future, training programs and worldwide deployment exercises will have to demonstrate the ability to tailor force elements, to deploy them within anticipated contingency warning times, and to employ and sustain them as necessary to assure success. Therefore, the Army must maintain and possibly expand today's already substantial active force capabilities dedicated to immediate contingency response.

Versatility will also be essential in enabling the Army to meet other challenges. The Army anticipates the need to support national efforts to combat drug trafficking and terrorist organizations. Assisting civil authorities in disaster relief and during other unforeseen emergencies will similarly demand adaptive and responsive Army civilians, soldiers, units, and leaders. The same will be true of the Army elements that will carry out security assistance efforts in the future. The focus in this area will be on programs that yield a multiplier effect in host nation armies. Leader development initiatives, training enhancements, joint exercises, and exchange programs - more than equipment transfers - frequently shape how friendly armies address their needs and help defend mutual interests. Such activities will be given new emphasis. In addition, U.S. offers of materiel under security assistance will be tailored to match needed military capabilities with available resources.

As the Army gets smaller, the quality of its people - soldiers and civilians - more than any other characteristic will determine the versatility of the Army. With a volunteer force, the Army must provide incentives to attract and retain the highest caliber men and women. This means that the Army will have to provide not only adequate compensation, but also a living and working environment that meets the standards of American society.

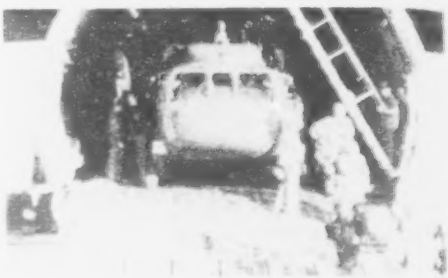
A Deployable Army

The nature of U.S. interests around the world and its coalition-based strategy will require that U.S. forces be globally deployable, often with little or no warning, from the United States or from forward bases. While operational circumstances will determine which deployment mode is best in each case, the Army must have forces prepared to execute either option. Recent events in Panama and current trends in the international security environment make it abundantly clear that rapid deployment will become even more important in the future.

Forward-deployed ground forces will continue to be essential, although their specific numbers will change to reflect contemporary circumstances. Soviet acceptance of the President's proposal for reducing conventional forces in Europe, for instance, would lead to reductions in the size of Army forces based there, and these reductions are likely to be substantial. The locations of Army bases abroad, moreover, are likely to be limited to those areas where deterrence and regional stability cannot otherwise be assured.

In the future, the United States will also have to maintain an unquestionable ability to conduct an opposed entry into combat in defense of vital interests anywhere. In many contingencies, a forced entry will only be possible, or will best be achieved, by simultaneous airborne assault. Army airborne and ranger forces are uniquely capable of performing this function. They will remain a key element in the Army of the future.

Even the most deployable and combat-ready land force cannot be employed without adequate strategic lift. The United States cannot afford to risk the effectiveness and credibility of its overall defense strategy by failing to develop and field adequate worldwide lift assets. Airlift and sealift assets currently available or approved for acquisition are inadequate. This deficiency will have to be corrected in the immediate years ahead. Of particular importance will be the further development of sufficient sealift capacity to support contingency requirements. It is vital that adequate resources be allocated to correcting these serious shortfalls in U.S. sealift and airlift.



. . . deployable . . .

A Lethal Army

Lethality is the assured capability to defeat an opponent, winning as quickly as possible to preserve the Army's most valued asset - the lives of its soldiers. Assuring the lethality of Army forces will demand a disciplined, continuous modernization effort. This will

mean maintaining the capability to counter the heavy armored forces of the Soviet Union and a number of potential adversaries, while at the same time fielding forces that can defeat other threats around the world.

In the 1990s and beyond, as in the present, concepts and doctrine must guide the Army's efforts to field combat-ready forces. For the near term, AirLand Battle doctrine, as discussed in Chapter IV, provides this foundation. Projecting ahead, the Army has launched the AirLand Battle-Future initiative which is designed to update all its warfighting concepts for the early 21st century. The Army also will continue to participate in the development of joint and combined doctrine and warfighting concepts.

Based on this doctrine, Army modernization will capitalize on U.S. advantages and strengths - particularly the qualities of its soldiers, leaders, and technology - and exploit vulnerabilities and weaknesses in potential adversaries. Future budgets will be constrained, so the Army must assign appropriate priorities and levels of effort to all aspects of modernization if it is to field a competitive force in the future. The Army believes it can make the best use of its resources by investing in its technology base in order to identify promising new technologies while avoiding mortgaging its future for useful but noncritical near-term capabilities. The Army may need to forgo some near- and mid-term modernization choices to protect these long-term modernization efforts. Therefore, the greatest challenge in this area lies in selecting those key technologies that will provide the greatest increase in warfighting capability for each dollar spent. In sum, high-technology research and development is, and will remain, a central feature of the Army's modernization strategy. The Army of the 1990s and beyond will reflect significant increases in battlefield effectiveness as a result of the application of advanced technologies.

The lethality of the Army of the future will be determined, above all else, by the actual combat readiness of the force. Training will continue to be the cornerstone of Army readiness. Combat Training Centers will remain the key to developing the maximum lethality of Army units. These centers not only hone combat skills, they also enable us to assess the validity of the Army's combat doctrine and to develop its officer and noncommissioned officer leaders. The Army will continue to provide tough, realistic training to the highest standards so that its soldiers, units, and leaders have the best possible chance of accomplishing their missions and minimizing casualties should they be committed to combat.

. . . and lethal.

The Imperatives

While the characteristics essential for the future force provided the Army the essential direction to guide some near-term programmatic decisions, the requirement to maintain a full range of capabilities as the Army reshaped itself necessitated difficult decisions and trade-offs in projecting resource allocations to support readiness, sustainment, modernization, and force structure. The Army leadership was guided in these decisions by adherence to six fundamental imperatives that have guided the development of today's Army, that were unambiguously validated during the Panama contingency operation, and that will continue to guide Army resource decisions in the future.

The first of these imperatives, and the most important, can be summed up in a single word - quality. It is this characteristic that enables the Army to fulfill its worldwide strategic roles in spite of its relatively small size. The high quality of the American soldier - a combination of intelligence, initiative, combat skill, tenacity, and physical toughness - has been a traditional source of victory in battle. The experiences of recent years have reaffirmed that quality produces the versatility needed to respond rapidly to unforeseen situations. The high quality of the Army's soldiers has been essential in many of its recent successes, ranging from protecting shipping in the Persian Gulf to assisting in the recovery from natural disasters, and from deploying rapidly to Panama for Operation Just Cause to interdicting the traffic in illicit drugs. These experiences have strengthened the conviction that recruiting and retaining talented men and women - the best the Nation has to offer - must continue to be the top priority in the Army of the future.

The rise in the quality of the Army's soldiers has been accompanied by a renaissance in its thinking about war. The second imperative focuses on sustaining the momentum in this area by maintaining a forward-looking warfighting doctrine. AirLand Battle, the Army's contemporary doctrine, provides the basic rationale for developing leaders, designing forces, determining materiel needs, and conducting training. This doctrine recognizes the need to integrate the capabilities of U.S. Army units with those of the other services and of its allies to achieve maximum combat power and effectiveness. It establishes the foundation for the Army's disciplined evolution to the future, ensuring the Army's preparedness for the battlefield challenges of the 1990s and beyond.

The quality of American soldiers has been a traditional source of victory in battle.

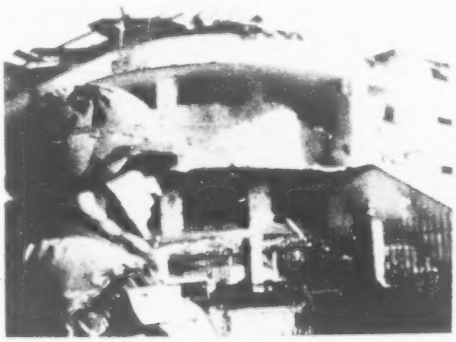
As the doctrine and the security environment have evolved, so too has the composition of Army forces. That evolution must continue. Thus, the third imperative is to maintain the appropriate mix of heavy, light, and special operations forces in the Active and Reserve Components. While the present force structure does not meet the current needs of all U.S. commands worldwide, the Army can meet the highest-priority U.S. strategic requirements. As the Army shapes the forces needed for the future, it takes into account the U.S. need for a sustained land combat capability worldwide, other land force roles, and ongoing East-West negotiations for reducing conventional forces in Europe.

In the conduct of tough, realistic training - the fourth imperative - the U.S. Army has set a standard for armies everywhere. The investment the Army has made in training over the past decade has produced the readiness for war that is the basis for credible deterrence and capable defense. The exercises conducted at the Combat Training Centers in California, Germany, and Arkansas, as well as recent operations around the world, stand as evidence of the Army's training achievements. Tough, meaningful, and fulfilling training is also a key element in encouraging the very best soldiers to stay in the ranks. Demanding training, accomplished to high standards, is one of the best investments today's Army can make in the Army of tomorrow.

Another dramatic improvement over the past decade has been modernization, particularly in the combat equipment of Army forces. The fifth imperative is to continue to modernize the Army's warfighting capability. The Abrams tank, the Bradley fighting vehicle, and the Apache helicopter are three examples of weapon systems fielded in the 1980s that have served this end. They, and other systems like them, are the products of a continuous process that reflects the Army's strategy, doctrine, technological advantages, and overarching commitment to providing its soldiers the best equipment possible. Because resources have always been limited, Army modernization plans ensure that units likely to be the first to fight - including selected Army Reserve and Army National Guard units - are modernized first. To develop needed future capabilities on time, the Army will continue to emphasize aggressive research and development in the key areas of operational concepts, unit designs, materiel, and training innovations.

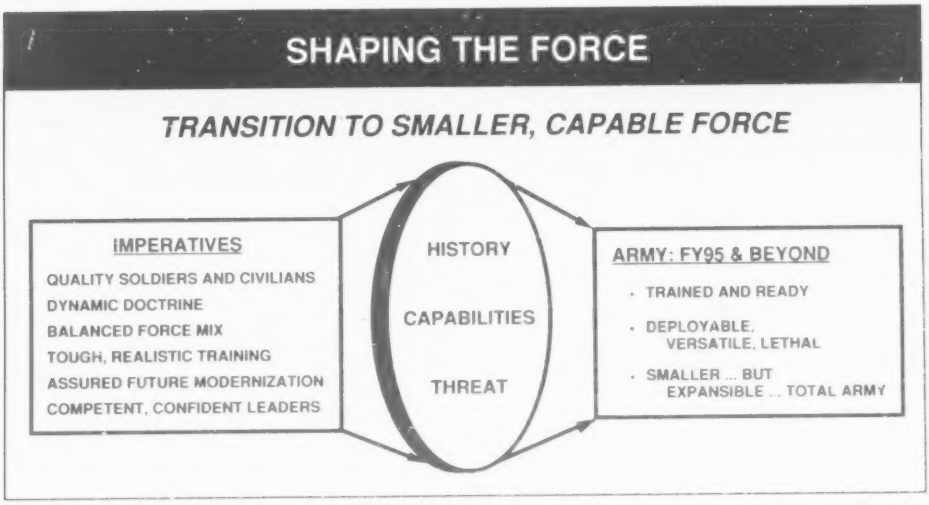
In the final analysis, the capabilities of the Army depend not only on the quality of its soldiers, but also on the competence of its leaders. Thus, the sixth imperative is to continue development of Army leaders. There have been many recent initiatives in this area, to include enhancements in formal education and training, successive operational experiences, and continuous self-development opportunities. Leader development for soldiers and civilians is the most important and lasting contribution to shaping the Army of the future.

Past adherence to these imperatives has positioned today's trained and ready Army to address the challenges of tomorrow. The Army of the 1990s and beyond will continue to be an Army that is shaped by reliance on these proven imperatives.



The six imperatives were validated in Operation Just Cause in Panama. An American soldier in front of the former headquarters of the Panamanian Defense Forces.

The six imperatives in careful combination with historical study, threat assessments, and a view toward the capabilities required in a versatile, deployable, and lethal force have led the Army to a vision of a mid-term structure. This vision of the future Army has guided the Army through the preparation of the FY91 budget and its mid-term programs. The FY91 budget represents the first step in a transition from a Cold War posture primarily oriented on the Soviet threat to a versatile posture for the 1990s and beyond with a more diverse threat orientation. This change in focus, coupled with recent and projected budget reductions, has forced the Army to make some extremely difficult decisions to best serve the immediate security needs of the Nation while preparing for a disparate and uncertain future. The FY91 budget should be viewed with the future in mind.



III. Quality

The key to a quality force is quality people

The Importance of Quality

A quality force is essential for a trained and ready Army. While the key to this quality force is quality people, quality is an all encompassing characteristic that requires not only solid recruiting practices and acceptable levels of pay and benefits, but also realistic working and living conditions, challenging training opportunities, and the potential for advancement consistent with the private sector.

Maintaining the quality Army required to meet the strategic challenges the Nation will face while the Army reshapes itself is a paramount concern for the Army and the Nation. The Nation is reshaping a modern, professional, volunteer force of America's best young men and women. As the Army reshapes itself to a smaller, capable force it is determined to take care of its soldiers and civilians and to preserve the quality of its force.

To do this the Army must continue to fill the force through quality accessions and selective retention by applying today's high standards to sustain the quality gains achieved during the last decade. It must provide career opportunities and a steady flow of promotions. It must continue leader development through a blend of schooling and assignments, and it must maintain adequate quality of life programs for its soldiers, civilians, and their families.

The Army must also maintain a high state of readiness and guard against the undermanning of units as it shapes the force for the future. As the Army becomes a smaller force, it cannot focus exclusively on reduced accessions to reach projected force levels. It must be able to trim both the mid-career and the career force. While it may be necessary to conduct involuntary reductions of both the officer and noncommissioned officers (NCO) corps, these steps will be taken only as a last resort. Over 275,000 NCOs and 100,000 officers have dedicated their lives to service to the Nation. The Army will not dismiss them lightly and break faith.

Quality soldiers who can maximize the Army's combat capabilities will always be critical, both as the foundation of current strength and the source of future leadership. Soldiers with high school diplomas who score high on the Armed Services Vocational Aptitude Battery learn faster and generally perform better on the job. Additionally, they are more likely to complete their first enlistment. Quality people demonstrate the initiative, competence, and spirit necessary to create a dynamic, versatile force capable of meeting the difficult missions the Army faces. The recent operation in Panama amply demonstrated the requirement for quality. Recruiting and retaining quality soldiers and civilians will remain the Army's top priority.

Recruiting and Retention

The key to a quality force is the ability to recruit and then retain quality soldiers. This requires a mix of recruitment, force management, and retention programs that are properly resourced. Such programs must be targeted toward the current and future needs of the Army, both the Active Component (AC) and the Reserve Components (RC), which consist of the Army National Guard (ARNG) and the U.S. Army Reserve (USAR). To attract quality people, prospective applicants must perceive the Army as a viable career choice. Adequate pay, quality of life programs for soldiers and family members similar to those available in civilian communities, challenging training, and career-enhancing jobs are key attractors and must be continued. Once soldiers are recruited, their retention will be affected by the Army's ability to manage properly their careers. This necessitates a continuing review and adjustment of officer, warrant officer, NCO, and enlisted management programs to ensure that they meet the force structure and technological requirements of the future.

Initiatives pending in Congress to improve the management of active and reserve officers and warrant officers are discussed in Chapter VIII.

Recruiting Initiatives

The Army continued to recruit quality people in FY89. Ninety percent of the active Army non-prior-service accessions were high school graduates, with 63 percent scoring in the top three Armed Forces Qualification Test (AFQT) categories and only 7 percent in the lowest allowable AFQT category. These quality soldiers are motivated, intelligent, and persistent. The USAR and ARNG also emphasized the recruitment of quality soldiers.

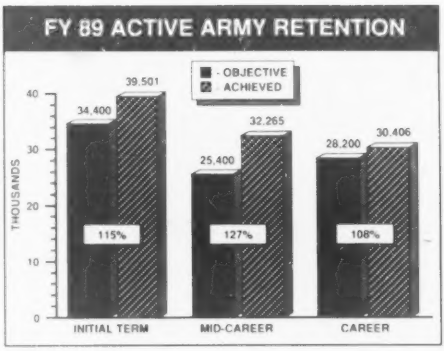
The Montgomery GI Bill continues to be a major recruiting incentive. Attesting to its attraction, more than 90 percent of eligible soldiers enrolled in the program in FY89. The Army has the highest enrollment rate of all the services.

Several additional initiatives have been developed to attract and retain these quality youths. Congress has approved a test of one of these, the Army College Fund (ACF) Plus test, which allows recruits who enlist for 2 years of active duty in non-combat-arms positions to participate in the ACF. In addition to the new soldier's active service, the soldier must also fulfill a 2-year obligation in a reserve unit. Because many reserve units need people with these skills, the program will not only expand recruitment of college-bound applicants but will also help reduce reserve recruiting and training costs. Early results of the ACF Plus test indicate that it may be a valuable tool for recruiters. It produced approximately 1,000 enlisted contracts, of which 25 percent were female, during the 4th Quarter FY89, the initial period in which it was available.

Active Component Retention and Reserve Component Transition

Manning the total AC and RC force through the early 1990s will become a greater challenge as the number of young people in the population continues to decline. One way to meet this challenge is by retaining the maximum number of quality first-term soldiers. Of equal importance is the transition into the USAR and ARNG of those quality soldiers who leave the active Army. To meet the quality needs of the RC, the Army seeks to transition 36 percent of the eligible population before they depart the active force.

To help generate higher reenlistments, the Army has developed a new single-source publication to educate commanders, unit leaders, and NCOs who manage the transition program. Additionally, the automated systems which coordinate reenlistment assignments and school requests against available vacancies have been upgraded, ensuring that transition NCOs can be more responsive to the desires of the soldier. The Army is moving to automate totally this process, thereby saving time, manpower, and dollars. An increased awareness of options through innovative advertising will also enhance the Army's ability to retain or transition the greatest number of highly qualified soldiers.



The Army was extremely successful at retaining first-rate soldiers in FY89, far surpassing its reenlistment goals, and seeks to continue that accomplishment into the future.

Current Concerns

In shaping the future force, the Army must address three major issues. First, the current Defense Officer Personnel Management Act does not provide the necessary tools to properly shape the officer force. The Army needs relief from some of the management constraints contained in this act (see Chapter VIII). Second, to maintain the ability to recruit quality individuals, the Army must continue to resource properly the recruiting effort by providing both adequate advertising funds and effective enlistment incentives. Lastly, the development of leaders is critical to the future of the Army. Of concern to potential officers is the extended active duty service obligation recently mandated by Congress for U.S. Military Academy graduates. In addition, the Military Academy should be permitted to grant advanced degrees to those who have successfully completed a rigorous academic program in leadership.

As the youth component of the total population remains at a relatively depressed level and the economy remains strong, Army recruiting will remain a difficult challenge despite the reduction in the total number of soldiers that must be recruited. The need for quality soldiers has not declined. The Army will need increases in 3- and 4-year ACF entitlements to keep pace with the increased costs of education and to improve the attractiveness of these options. This will be essential to recruit college-bound soldiers in the future. An increase in the enlistment bonus, to attract quality soldiers to difficult-to-fill specialties, will be even more critical as a result of the declining pool of quality youth.

Advertising must be resourced adequately to support recruiting in an increasingly difficult environment. Current funding must be increased. The cost of access to the media is rising at almost three times the general inflation rate. Advertising is an investment over time - FY90 advertising promotes contracts for FY90 and the FY91 Delayed Entry Program - and it must be steady and sustained. A Rand Corporation report released in January 1989 found that advertising has a direct and immediate impact on the number of high-quality enlistments. The Rand analysis also indicates that the Army's national and local advertising programs compare favorably with other recruiting tools, such as adding recruiters or cash bonuses, in terms of cost per high-quality enlistee.

Congress recently directed that all military service academies extend the active duty service obligation of their graduates to 6 years. This increase in service obligation could have an adverse impact, as quality students may be unwilling to commit themselves to a 10-year obligation, 4 as a cadet and 6 as an officer.

Similarly, there is a need to attract quality officers as role models and instructors for the Army's future officer corps. The U.S. Military Academy has for years provided career development opportunities for those assigned as cadre. One of these programs, called Leadership Development, has been a masters-level education program; however, because of current legislative language, graduates of the program have been unable to receive a master's degree for their efforts. This needs to be changed, as the program is a significant tool for attracting quality officers to serve at the Academy.

Individual Ready Reserve (IRR) Screening Program

The IRR Screening Program completed its annual statutory screening of more than 61,000 reservists during FY89, the third year of the program. Each month the U.S. Army Reserve Personnel Center orders IRR soldiers to schedule appointments at local recruiting stations, where recruiters collect updated personnel and physical health status information. The visit to the recruiting station raises IRR members' awareness of their military service obligation and of the training and membership opportunities available to them by joining USAR and ARNG troop program units. The screening program promotes troop program unit membership and, more importantly, facilitates the maintenance of accurate IRR records necessary for the effective, rapid call-up and mobilization of pretrained soldiers.

NCO Requirements

The active Army continues to experience shortages of NCOs. Through its Enlisted Force Alignment Plan I (FAP1), the active Army reduced critical imbalances (shortages amounting to less than 80 percent of desired NCO fill and overages greater than 120 percent of fill) from 28,800 in FY84 and 6,100 in FY88 to a low of 4,000 in FY89. These reductions represented a 85 percent decrease since FY84 and a 36 percent decrease since FY88 in critical imbalances. The reductions greatly improved the readiness posture of the Army.

NCOs are the foundation of the Army's small-unit leadership.

There was an aggregate shortage of about 5,600 NCOs in FY89, and the Army hoped to eliminate the shortage by the end of FY91. However, due to budget and force structure reductions, total NCO strength will fall to 276,000 in FY90 and 268,000 in FY91, producing projected shortages of 7,550 NCOs in FY90 and 8,836 in FY91. While careful management has somewhat ameliorated the effects of the current shortages, further unprogrammed budget cuts will have an immediate negative impact on readiness by removing an important segment of small-unit leadership. The Army remains committed to having NCO strength equal NCO demand in the FY92 to FY95 period.

RC Medical

The Army relies heavily on the RC for its medical combat service support. The RC will provide 67 percent of the physicians, 86 percent of the nurses, and 68 percent of the enlisted medical soldiers necessary for mobilization.

The Army has made significant improvement in medical personnel readiness through a variety of programs targeting certain wartime combat skills:

- The Health Professional Loan Repayment Program provides repayment of student loans for physicians and nurses with critical specialties in return for service in the Selected Reserves. There are 290 officers participating in the program.

- The New Specialized Training Assistance Program (New STRAP) provides a monthly stipend for reserve soldiers training in critical skills in return for a

commitment to the Selected Reserves or IRR. There are 127 Army Nurse Corps officers and 442 Medical Corps officers participating in the New STRAP program.

- The National Army Medical Department Augmentation Detachment (NAAD) offers flexible training for physicians and nurses in critical specialties who are unable to train on a regular basis with a USAR medical unit because of geographic or time constraints. There are a total of 330 physicians and 450 nurses assigned to the NAAD.

- The Specialized Training for Army Readiness (STAR) program allows soldiers in drilling reserve status to acquire advanced individual training in selected medical technician specialties by attending civilian educational institutions at government expense. Qualified soldiers receive tuition, books, and fees for training (up to a $6,000 maximum per year) as long as they meet school requirements and are satisfactory participants in troop units. In FY89, 60 soldiers enlisted in the STAR program. Funds are available for 400 soldiers in FY90.

Full-Time Support (FTS) Program

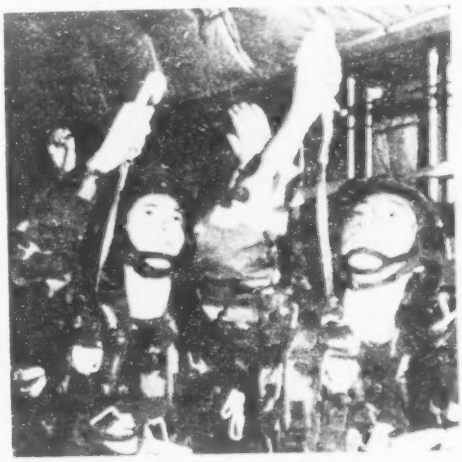
RC readiness is dependent to a great degree on the strength of the FTS program. It provides a cadre of full-time soldiers and Army civilians to organize, administer, recruit, retain, instruct, and train the part-time force. The ability of the RC to meet mission-essential requirements is directly related to the professional competence of the FTS force. This cadre of professionals is composed of four categories: AC soldiers who bring experience and expertise to support force modernization; Active Guard and Reserve soldiers who perform administrative, recruiting, training, and logistical tasks on a full-time basis; military technicians who are required by law to be members of the Selected Reserves and provide administrative, maintenance, training, and logistical support in reserve organizations; and civilians who provide administrative and clerical support.

The civilians and soldiers in the full-time support program perform support functions essential to RC readiness.

Women in the Army

Opportunity for women in today's Army is particularly rich, allowing a wide variety of assignments. AC female strength totals 12,200 officers and 73,800 enlisted soldiers, or 11.2 percent of the active force. There are 9,700 officers and 47,700 enlisted women (19.8 percent) in the USAR and 3,500 officers and 26,500 enlisted women (6.2 percent) in the ARNG. Women total over 173,900 soldiers (including cadets), representing over 11 percent of the Total Army's population, serving in demanding and challenging positions around the globe.

Army policy is that women will be provided full and equal opportunity to pursue careers and will be assigned in all skills and positions except those closed under the Army's Direct Combat Probability Coding System. Presently 86 percent of the enlisted military occupational specialties, 91 percent of the warrant officer specialties, and 96 percent of the commissioned officer specialties are open to women.



The Army provides full career opportunities for women.

The Civilian Work Force

The quality of the civilian work force is as vital to the Army as the quality and readiness of its military force. The Army depends heavily on its civilians to provide the continuity and expertise so vital in today's highly technical environment. It has become critically important to provide them with an effective personnel system that supports personal growth and advancement,

simplifies recruitment, and gives pay comparable to that of non-government workers. Recent congressionally directed changes to the management of nonappropriated fund programs have caused the Army to seek authority to allow civilian employees to retain their entitlements and benefits when moving between the appropriated and nonappropriated personnel systems; this will facilitate movement between the systems. Comprehensive training programs are also needed to ensure the continued technical expertise of the work force and to develop civilian leaders.

Civilian Personnel Plans

As the Army moves into the 1990s, it must be prepared for demographic changes and competitive labor market conditions that will make it increasingly difficult to attract and retain a high-quality civilian force.

Forecasts in a government study entitled "Work Force 2000" indicate that during the next decade the Army will confront increasing shortages of fully trained personnel in the Nation's labor supply. Consequently, more in-service education and training will be required to prepare new work force entrants. This heavy investment will place an even greater premium on the retention of high-quality employees, who will be in great demand by private sector competitors.

As with the military, there are several factors that are instrumental in the retention of high-quality civilians. Among them are opportunities for personal growth and professional development, effective leadership, competitive pay and benefits, and recognition for a job well done. The Army's wide-ranging Civilian Personnel Modernization Project addresses these and other factors crucial to retention.

A vital part of the Army's modernization initiative is the continued strengthening of its well-established intern program. The intern program responds to the challenges of today and "Work Force 2000" by attracting high-quality potential employees at entry levels and developing them to fill future key top-level positions. About 3,000 centrally funded interns are engaged in training programs lasting from 18 to 36 months in 26 different career fields. These interns receive a blend of formal and on-the-job functional and leadership training that is needed as the foundation for a successful career.

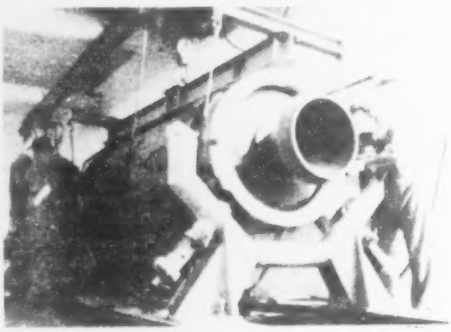
Erosion of civilian pay over the last several years has made it increasingly difficult to attract and retain high-quality employees in many occupational and geographic locations. Tangible evidence of this is the number of Army employees covered by special salary rates - now approaching 30,000 and growing. To address this problem, the Army is working closely with the Office, Secretary of Defense, and the Office of Personnel Management to obtain the legislative changes required to make the civilian pay system more sensitive to widely varying local market conditions.

The leadership responsibility for Army civilians is shared by both military and civilian leaders. Efforts are under way on both fronts to better prepare managers for this role. The civilian side is covered under the Army Civilian Training, Education, and Development System through the leader training provided by the Center for Army Leadership at Fort Leavenworth, Kansas. On the military side, the Training and Doctrine Command is working to place appropriate modules of civilian personnel management training in military schools.

To aid managers in their leadership responsibilities, two new awards were designed for recognizing civilian service and achievement. The Superior Civilian Service Award and the Achievement Medal for Civilian Service parallel awards used to recognize military members. The Army has given approval authority to commanders to grant these awards worldwide. Effective use of these and other civilian awards will greatly assist leaders in motivating and retaining high-quality employees.

Alternative Civilian Personnel Management System

The ability to attract and retain the General Schedule/General Merit (GS/GM) civilian work force is increasingly difficult without a flexible alternative to the current civilian personnel management system. Key features being sought as an alternative include more agency-level hiring authority, simplified job classification and performance appraisal systems, enhanced supervisory authority to set employee pay based on performance, streamlined promotion procedures, and a lengthened probationary period. In addition, enactment of legislation for a locality-based GS pay system that is market sensitive is needed. Such a system would be cost effective and support overall recruitment and retention needs. The government worker pay lag behind the private sector has steadily increased since 1977. It is now estimated at 28 percent.



Civilians provide crucial technical expertise to the Army. These technicians are preparing a Pershing missile for destruction in compliance with the INF Treaty.

The Army has proposed several demonstration projects to determine the impact of these proposals on the management of the civilian work force and on recruitment and retention. The results of these projects will help to establish the benefits of these improvements.

Managing the Civilian Work Force to Budget (MCB)

This initiative provides commanders and supervisors significant flexibility in managing the civilian work force. It delegates authority for position classification and management of a civilian personnel budget to the lowest practical level of supervision. A single dollar limit for civilian personnel costs replaces the previous administrative controls on employment levels, high grade positions, and overtime. Under MCB, commanders and local supervisors can structure their civilian work force to meet mission requirements with only minimum administrative constraints. MCB was tested for 2 years at 15 installations and activities. Based upon the test results, MCB has been expanded to 46 additional sites for FY90 and has been approved for implementation throughout the Continental United States (CONUS) beginning October 1, 1990.

Integration of the Civilian Work Force in the Army Personnel Proponent System

Integration of civilians into the Army Personnel Proponent System is a recommendation of the Civilian Personnel Modernization Project. The system assures every civilian occupation a proponent for professional development and personnel management. The proponent provides support and structure to civilian career paths from entry to retirement. Used successfully by the military since 1981, extension of the system to include the civilian work force will assure economy of operations in functions common to military and civilians and will provide consistency in professional development where military and civilians serve in like occupations. The program for civilians is currently being piloted by 14 proponents representing 29 groups of related occupations, known as career fields. The pilot program will last through September 1990. An evaluation of civilian integration will take place from October to December 1990, with Army-wide implementation scheduled to begin in January 1991.

Quality of Life

Quality of life is a readiness issue. It is directly related to soldiers' and civilians' efficiency on the job and to the likelihood that they will remain in the Army. The term "quality of life" encompasses the full range of programs, facilities, and services that affect the living and working conditions of soldiers, civilians, retirees, and their families. Satisfaction with these conditions is essential to maintain the morale and improve the productivity of soldiers and civilians.

Army Communities of Excellence (ACOE)

Army communities are vital forces shaping individual performance. Army communities garrison its soldiers, house its families, support its training, and furnish the services essential to all its activities. Community excellence engenders pride, and pride is the fuel of human accomplishment.

Army communities are inextricably linked to the morale, welfare, and sense of well-being of soldiers and their families. Soldiers who are convinced that their leaders care about them and their families can get on with the mission. A committed, caring community inspires soldiers and their families to feel better about themselves, the community, and the Army. Thus, Army communities have a vital role in retention and improved combat readiness.

The ACOE program is focused on the total Army community. It is an umbrella program that combines overall planning of community facilities and services to achieve the mission of taking care of people. ACOE stresses self-help projects, such as painting and decorating, and the exchange of ideas for making improvements in the community. The ACOE program is not competing with other programs: ACOE complements and adds luster to other activities.

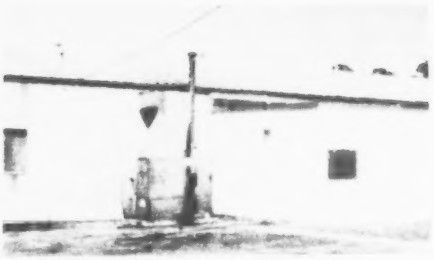
During the past few years, many of the Army's installations have made tremendous improvements in facilities and services. Under ACOE, all installations are committed to enhancing living and working conditions and to building community pride. Many low cost projects result in immediate, positive, and dramatic change. Attitudes and outlooks improve.

Army Communities of Excellence are truly places where soldiers, families, and employees "can be all they can be." ACOE looks to innovation and creativity that unleashes the entrepreneurial genius of the Army's people and makes its communities better. ACOE results in improved quality of life, improved recruiting and retention, increased productivity and performance, and increased combat readiness of the Army.

Facilities

Excellent installations and facilities are inextricably linked to Army goals, missions, and values. Army facilities support manning, training, sustainment, equipping, mobilization, deployment, and warfighting; provide quality environments that inspire pride; and support efforts to attract, motivate, and retain quality people.

The Army's facilities strategy commits resources to maximize the use of existing facilities, to



Funding to replace outdated facilities, like this motor pool, is necessary for the Army to maintain its facilities base.

meet regulatory and environmental guidance, to maintain and revitalize existing facilities, and to contain backlogs of maintenance and repair. It incorporates the ACOE program, prudent stewardship, innovative business practices, and balanced investment. Successful execution of this strategy requires the Army to fund annual requirements fully, to include support to newly constructed facilities, and to invest at a stable level in revitalization of existing facilities. Facilities for essential force structure, modernization, and stationing initiatives must receive the same consideration as other Army high priority new mission needs.

The fundamental objective of the Army Family Housing program is to provide suitable housing for all families eligible for this entitlement. Sources of suitable housing include private rentals and sales, third party investments, and government new construction. Successful execution of this program requires a substantial effort to revitalize the existing inventory of government-owned units.

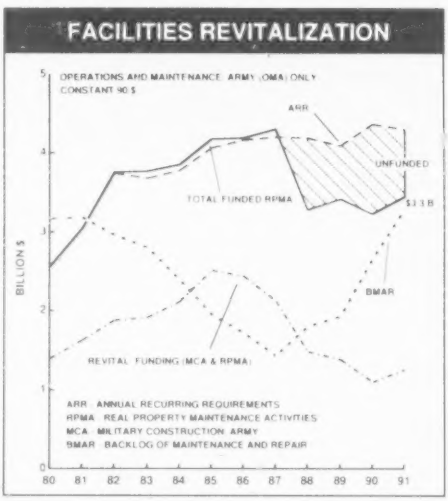
Recent reductions in funding for new construction have focused the Army's attention on the revitalization of existing facilities. Revitalization is defined as the replacement or renovation of Army real property in order to modernize facilities to current functional and physical standards. Inherent in this strategy is the need to fund annual recurring requirements for operation, maintenance, and repair of all Army facilities, including family housing. As funding approaches the costs of recurring requirements, the Army can contain the growth in maintenance and repair backlogs. The Army is focusing on measures that will contain the growth in future facilities requirements, including necessary base closures and realignments.

The Army's reliance on leasing land and facilities to maintain readiness also continues to escalate as construction funding declines. The Army currently pays approximately $120 million annually for space leased for use by the Army. Leases include administrative, storage, recruiting, parking, maintenance, and other types of special purpose space for the AC and RC.

In addition, the Army is leasing 3,000 units of housing in CONUS under the Section 801 Program and has authority to lease an additional 4,500 units. Besides helping to reduce the overall housing deficit, the 801 Program, or Army Community Housing, played a major role in enabling the Army to quickly station the 10th Mountain Division at Fort Drum, New York.

The Army also has authority to enter into leases or contracts with the private sector to provide facilities for housing unaccompanied soldiers, for child care, and for other services. This authority, however, does not compensate fully for the reduction in the Army's ability to maintain, repair, and upgrade facilities through discretionary operations and maintenance spending.

Given the current outlook for continued tight budgetary constraints, the Army must use every opportunity to stretch available resources and provide excellent facilities and engineer support. As force structure is cut, the Army must reduce the supporting facilities base by closing installations and facilities if the Army is to retain excellence. Only those facilities needed to support current missions or mobilization will be used and maintained. Old facilities that are not required should be disposed of, and operations should be consolidated in the best, most efficient facilities. The following chart shows how the Army brought the backlog of maintenance and repair (BMAR) down in the 1981 to 1987 time period. Similar success was achieved with Army family housing, Army industrial and research facilities, and RC facilities. However, since that period, funding levels have decreased, causing a gap between requirements and total funding in both real property maintenance activities (RPMA) and Army family housing.



Shortfalls in funding for annual recurring requirements and for revitalization of facilities have caused an increase in the backlog of maintenance and repair.

In summary, valuable facilities assets are eroding rapidly. As the Army reduces force structure, it must take proper care of a smaller, but critically important, facilities base. The risk is to the vitality of the Army - its productivity and morale, recruitment and retention, and warfighting readiness.

Medical and Dental Care

A major Army goal is to improve access to health care within the Army's system. The Army places strong emphasis on expanding direct care to reduce reliance on the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). It now costs at least 50 percent more to provide services under CHAMPUS than in an Army medical facility. Army medical facility services include 60,386 outpatient visits and 1,104 inpatient admissions during an average day worldwide. Army medical facilities also serve 5,523 inpatients, deliver 107 infants, and perform 72,055 dental procedures daily.

The Army seeks to provide as much health care as possible within the Army health care system to avoid the costs of CHAMPUS.

Ten Army Primary Care of the Uniformed Services (PRIMUS) clinics are operational in North Carolina, Georgia, Virginia, Texas, and California. They provide outpatient care for minor illnesses and injuries exclusive of the CHAMPUS program. The clinics, which are located off-post near large concentrations of active duty families, operate every day, providing services for more than 1,703 patients daily.

Several new and ongoing Army initiatives are increasing access to services at lower costs. One test gives military hospital commanders control over both CHAMPUS funds and the direct care medical operating budgets. The Army Medical Enhancement Program continues to increase the availability of services by improving direct care staffing in family practice, obstetrics-gynecology, and other areas. The Alternate Use of CHAMPUS Funds Test permits commanders to use CHAMPUS dollars to finance unique direct care initiatives at substantial cost savings. A mental health project at Fort Bragg, North Carolina, is testing the cost effectiveness of a community-based system of services for children and adolescents. Under a European After-Hours Test Project, active duty family members obtain acute care outpatient services from local German medical facilities.

Reducing occupational-related diseases and injuries remains a priority goal. A worldwide back injury prevention program for soldiers and civilians will reduce the loss of training time, compensation claims, costs, and lost productivity. The fielding of 25 military occupational health vehicles will take preventive medicine services to the soldier and reduce time away from training.

Providing dental care is one of the overall Army goals for promoting a healthy work force. The Family Member Dental Insurance Plan helps meet this requirement by providing dental services to approximately 148,000 Army families in the 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

Family Support and Child Care

Child development services provide center-based and home-based child care to reduce the impact of parental responsibilities on unit mission requirements. In FY89, more than 147,000 children benefited from this service, yet demand still exceeds capacity. Affordable, quality

THE ACTIVE ARMY FAMILY

MARRIED	56% (OF TOTAL FORCE)
SOLE PARENTS	37,604
DUAL MILITARY MEMBERS	39,728
WORKING SPOUSES	44% (OF ALL SPOUSES)
CHILDREN	600,000
74% AGE 11 AND UNDER	
FAMILY MEMBER LOCATION	
OUTSIDE CONUS:	32%
CONUS:	68%

AS OF MARCH 89

Child development centers are an important part of the Army's family support program.

care remains a paramount concern, and the Army continues construction of child development centers to meet these demands. The Family Child Care Program, which certifies and monitors homes and caregivers for home-based child care, also continues to expand, with over 8,500 homes registered in FY89. Recent congressional initiatives that provide for enhanced training, better wages, and increased appropriated funds have been helpful in improving the Army's child development program.

Youth Services provide a comprehensive system of recreational programs at 183 Army installations to support the psychological, emotional, physiological, and social growth needs of 248,000 eligible youth, grades 1 to 12. Youth Services leisure and recreation programs and fitness and sports programs promote the development of skills, with an emphasis on fun and the fundamentals of sports. The Youth Services Youth Development Program promotes activities that emphasize social responsibility, community involvement, physical challenge, and intellectual stimulation. These programs are critical in today's environment to divert the youth population from the pressures of drug use.

Sports activities for youth are provided through the Army's Youth Services Program.

Morale, Welfare, and Recreation (MWR)

MWR encompasses programs and activities provided to soldiers and their families to create an Army community similar to those other Americans enjoy. Funding support varies according to each program's impact on readiness, with mission sustaining activities primarily supported by appropriated funds and business activities operating with nonappropriated funds (NAF) generated by sales to soldiers and their families.

Funds generated in MWR retail and resale activities, such as Army clubs and bowling centers, are used for facilities construction (approximately $1 billion in NAF construction will be completed by FY92), building maintenance and repair, and major equipment purchases. In addition, NAF are used to support operational costs for mission sustaining and basic community support activities, such as physical fitness centers, libraries, and child development services, when appropriated funds are insufficient. The Army is working to fully fund these programs with appropriated funds so that NAF dollars can be used to revitalize MWR facilities and support other MWR requirements, such as services at remote sites.

Business activities throughout the Army are being oriented to ensure they meet the needs of today's soldier and operate with minimal appropriated fund support. Initiatives to improve MWR management include the development of MWR marketing and management information systems.

Religious Support

Religious support to the soldier is integral to readiness because it fosters the energy and confidence that arise in soldiers who are sustained by the soul. The majority of chaplains and chaplain assistants in the Army are assigned to combat, combat support, combat service support, and combat medical units where training with soldiers and religious support to the soldiers go hand-in-hand in an increasingly pluralistic religious environment. The chaplaincy focus remains to provide for the free exercise of religion for all soldiers and family members.

The garrison chaplaincy undergirds and sustains the fighting forces through chaplain training that sharpens and expands military and ministerial skills. Soldier and family member programs in religious education, family life, wellness and pastoral care, and religious community building assure the soldier that in the event of mobilization family members remaining behind will be supported by a chapel community.

Post Exchange Program

The Army and Air Force Exchange Service (AAFES) is a highly visible component of the quality of life services available to the Army soldiers and their families. AAFES provides merchandise and services to active duty and retired Army and Air Force members and their families at an average savings of over 20 percent. AAFES earnings are used to improve MWR facilities and programs for both families and single soldiers. A significant portion (40 percent in FY89) of AAFES payments to Army MWR is paid directly to installation MWR funds with the rest going into a general Army MWR fund.

AAFES has anticipated the fiscal realities of the 1990s and started actions to minimize the impact of installation closures, a smaller customer base, and reduced appropriated fund support. Customers will continue to receive the best value possible, and Army MWR will continue to receive the highest possible returns for its programs. AAFES is restructuring CONUS region operations and reducing costs through actions planned for FY90 and FY91. Other efficiencies will be realized from the realignment of the distribution network and implementation of technological advancements in communications and data processing.

The Commissary Program

Army commissaries play a key role in maintaining the morale of the Army family. Surveys show that soldiers and families consider commissaries to be a promised condition of employment and the most valued benefit next to medical care. Commissaries save patrons an average of 25 percent over commercial supermarkets.

Soldiers and their families cite the commissary as the most valued benefit with the exception of health care.

The Army is making a concerted effort to upgrade or replace commissaries with surcharge funds paid by commissary patrons. In FY89, the Army completed six new commissaries at a cost of $49.3 million and one warehouse addition for $1.2 million. As of January 1, 1990, there were 12 replacement and major renovation projects in progress with an estimated cost of $89.7 million. Two commissaries overseas and one commissary in the United States will be replaced in FY90.

Improvements are also being made in commissary operations. Price scanning at the checkout counter is available in 95 percent of Army commissaries. The District Oriented Store System, which automates ordering, receiving, and accounting and inventory management at the commissary, is currently in use in some commissary districts. Commissary Central Distribution Centers, which will improve commodity distribution, are in the final planning stage.

Army Field Feeding System (AFFS)

The AFFS standard is two hot meals, primarily tray rations (precooked meals), and one Meal, Ready to Eat (meals requiring no preparation) per day. Full implementation of AFFS with the required equipment and rations enables the Army to reduce food service personnel. The Mobile Kitchen Trailer (MKT) is capable of preparing both tray and A-rations (freshly cooked meals). Funding is sufficient to field the MKT to divisions, separate brigades, and armored cavalry regiments. Initial funding for echelons above division (EAD) has been reprogrammed for FY90/91. Additional funding is still required to complete equipping EAD, ARNG, and USAR units with MKT.

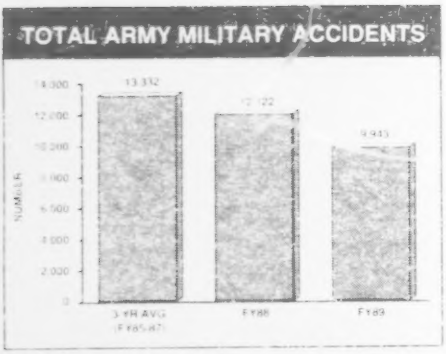
Better Opportunities for Single Soldiers (BOSS)

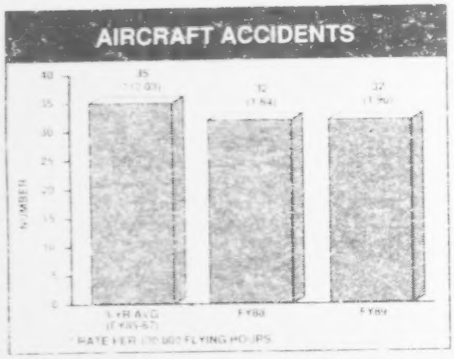
The Army has recognized the need for recreation programs for the single soldier between the ages of 18 and 25. To satisfy this need, the BOSS program was conceived to help span the gap between the 18- to 25-year-old group and MWR providers. The program has been extremely successful.

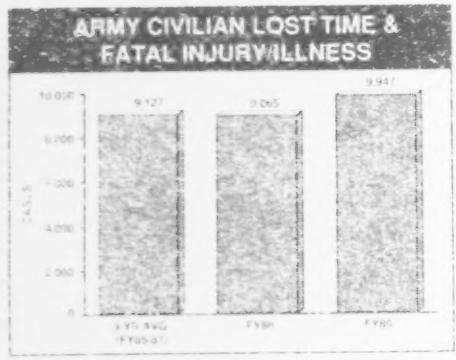
Army Safety Program

The Army safety program supports the Army objectives of statutory compliance, realistic training, and the enhancement of readiness through the preservation of resources. In recent years, the Army has succeeded in training the commander to assess and manage risks, in integrating this risk assessment process into the development of standards, and in raising the level of awareness within the Army that safety is both a readiness and a warfighting issue.

Despite the increasing complexity of Army weapons and equipment, there has been an encouraging decline in overall accident trends and fatalities.







Nevertheless, aircraft accident costs and civilian injury costs are up, requiring renewed command emphasis to reverse this trend.

Formal training in risk management has been expanded throughout CONUS and in every overseas command for officers and senior NCOs down to company level. Risk management training recognizes the inherently dangerous environment in which the Army operates, the professional soldier's imperative to take risks, and the necessity to manage those risks that are either necessary or unavoidable in training and combat.

The strategy of integrating the risk management process into standards ensures that when soldiers work and train to standards, they work and train to standards that are both safe and realistic. To make this integration serve the training environment, safety professionals deploy with units on field training exercises, monitor high hazard operations, and investigate accidents to determine if standards were being followed or, indeed, if the standards themselves contributed to the accident.

Safety is not just a peacetime concern. In forward deployed corps and divisions an increasing number of civilian safety positions are being classified as "emergency essential" to ensure that professional safety support continues into hostilities.

Human Resources

Army programs in the human resources arena are aimed at manpower conservation and preventing adverse impact on unit readiness. The policies on alcohol and drug abuse and Human Immuno-deficiency Virus were developed to protect the health and welfare of soldiers while ensuring combat readiness. The Army's success in the continuing fight against all forms of drug abuse is notable considering the extent and pervasiveness of the problem in American society today. The Army Alcohol and Drug Abuse Prevention and Control Program is a multifaceted effort encompassing education, identification, and treatment. With this type of global approach, positive rates on drug tests are at historical lows.

Alcohol and Drug Abuse Prevention and Control Program

Drug testing and the deglamorization of alcohol are the major deterrents to alcohol and drug abuse. Worldwide surveys indicate that the consumption of alcohol and the use of illegal drugs is declining in the Army. The Army's program seeks to combat drug and alcohol abuse through prevention, identification, education, and rehabilitation of substance abusers. The Army has been particularly successful in combating drug abuse. These successes are due to the direct involvement of all levels of the Army's leadership, well-designed programs, and adequate funding. All levels of the chain of command take prompt action in identifying personnel, regardless of rank or grade, if alcohol or other drug abuse is suspected. Soldiers identified as alcohol and drug abusers who, in the opinion of their commanders, warrant retention are afforded the opportunity for rehabilitation; others are discharged. The Army's FY91/92 program will follow through with FY90 initiatives that include the President's Drug Free Workplace Plan and expanded random drug testing for the ARNG and the USAR.

Human Immuno-deficiency Virus (HIV) Policy

Army policy prohibits individuals infected with HIV from enlisting or being appointed into military service. HIV-infected soldiers on active duty who are determined fit are returned to duty; if unfit, they are medically separated or retired. RC soldiers who are diagnosed as HIV-infected are given the option of proving their fitness for duty and, if successful, may then continue in a non-deployable position in the Selected Reserves if a position commensurate with their grade and military occupational specialty (MOS) is available. Units conduct training for all soldiers concerning HIV infection and ways to prevent transmission. AC and RC members are tested at least every other year.

Environmental Ethic

The Army is committed to sustaining a healthy environment and to integrating this commitment into its way of doing business. Army actions must meet the needs of the present without compromising the ability of future generations to meet their own needs. This ethic includes but goes beyond achieving and maintaining compliance with all environmental laws.

Compliance with environmental laws and regulations is a high priority for the Army. The Army will meet its environmental compliance responsibilities in land and facilities management, operations and training, and industrial practices.

Beyond compliance, the Army must account for environmental costs in an economic sense. If activities are not environmentally sustainable, they are not economically sustainable either. The Army will establish requirements for anticipating and balancing the full impact of economic, technical, social, and environmental consequences. The Nation's economic security rests on a healthy natural resource base, and the Army recognizes its obligation to act as the steward of the natural resources within its control. Concern for the environment will be reflected in all Army activities.

The Army is making excellent progress in cleaning up contamination from past disposal activities. Over $650 million has been spent from the Defense Environmental Restoration Account through FY89 on investigations and interim remedial actions. The Army is also the executive agent for cleaning up formerly used defense sites which were once owned by the military services. Over 7,000 sites have been identified thus far for investigation and cleanup, if appropriate. Through FY89, $200 million has been expended on this program. It is estimated that the Army's final bill for cleanup of past contamination will approach $10 billion and will not be completed until at least the year 2000.

Equal Opportunity

The Army continues to embed equal opportunity within its leader development framework. Fairness, justice, and equality for soldiers and civilians, regardless of race, color, ethnicity, gender, or religion, are functions of leadership and the responsibility of commanders. A critical factor in maintaining a high level of readiness is ensuring that all individuals have an equal opportunity to excel, based solely on merit, capability, and potential.

Minority and female representation in the officer corps is the highest it has ever been, and soldier opinion surveys indicate that the positive attitude toward equal opportunity continues to increase. Equally significant is the fact that the number of incidents of sexual harassment continues to decline. Army leaders and commanders are committed to eliminating sexual harassment and sex discrimination.

The Army is committed to a program of equal employment opportunity for its civilian employees as well as applicants who aspire to become employees. Commanders and managers are involved in affirmative employment actions to achieve a work force that is representative of the Nation. Excellent progress has been made in bringing targeted groups into the Army civilian work force. The Army has an affirmative action policy specifically for GS/GM-15 and Senior Executive Service positions to address the fact that the representation of minorities and women in these positions has not increased over the last decade. This policy makes supervisors and managers aware of their responsibilities for affirmative action and employee development. The Army will remain in the forefront of providing employment opportunities to all segments of the Nation's diverse population and, at the same time, ensuring each individual is treated with basic human dignity.

Maintaining Quality Soldiers and Civilians

The Army, through its Soldier Oriented Research and Development (SORD) Program, is conducting research on military and civilian recruitment, retention, leadership, training, quality of life, and the integration of soldiers and equipment (MANPRINT).

SORD must integrate personnel requirements, training needs, equipment development, and future battlefield scenarios. SORD products help predict outcomes and give prescriptions for the Army's personnel programs and policies for recruiting, maintaining, and training a quality force.

The SORD program is vital to sustaining the present high-quality of soldiers and civilians in the Total Army. Research funds must be protected and applied to ensure that the Army makes the right choices to maintain the quality of its personnel in the future.

IV. Doctrine

Doctrine guides the development and employment of Army forces.

The Role of Doctrine

Doctrine - a set of fundamental, well understood principles - provides the basis for the Army's training and education programs, force structure and design initiatives, modernization, and materiel development and acquisition. It is the foundation for all the elements that contribute to the Army's ability to carry out its strategic roles. The doctrine must be forward-looking to respond to threats in a changing world and consistent with available technology and resources.

AirLand Battle Doctrine

AirLand Battle provides an accepted set of principles that describes the nature, theory, and practice of war. AirLand Battle specifically recognizes the absolute necessity for joint operations (those involving two or more services) in modern warfare. It explicitly recognizes the key role of Air Force support to Army forces in ground campaigns. Adapted to U.S. and alliance policies and strategy and to the nature of specific regions and battlefields to which Army forces may be committed, AirLand Battle principles form the basis for planning and conducting campaigns, major operations, battles, and engagements in conjunction with other services and allied forces. While AirLand Battle focuses primarily on mid to high intensity warfare, the tenets of the doctrine - initiative, depth, agility, and synchronization - apply in all theaters and to all military operations.

The essence of AirLand Battle is simultaneous operations over the full breadth and depth of the battlefield. Commanders at all levels must simultaneously fight close operations to destroy enemy forces at the point of contact; deep operations to destroy, delay, and disrupt enemy follow-on forces so as to create opportunities for success in close operations; and rear operations to retain freedom of action through sustainment of committed forces and movement of reserve forces.

As the Army's capstone warfighting doctrine, AirLand Battle also serves as the foundation for developing subordinate doctrine, force design, materiel acquisition, individual and unit training, and leader development. Army forces only achieve their full potential with sound doctrine combined with modern equipment and well-trained, motivated, high-quality soldiers and leaders.

Joint Doctrine

Most operations in modern warfare require the effective coordination of the actions of two or more of the services, that is, joint operations. The Army, in coordination with the other services and combatant commands, continues to develop joint doctrine to ensure the best integration of all services' capabilities. Much progress has been made in this area during the past year. The Joint Staff has produced a master plan for the development of all joint doctrinal publications and has developed detailed procedures to ensure that all participants' input is considered.

The Army has been charged with the development of joint doctrine in several areas, including the JCS manuals Joint Operations and Joint Operations in Low Intensity Conflict.

Currently, seven approved test publications are being evaluated prior to final publication. An additional 19 publications will be developed during FY90. The end product will be a growing body of common doctrinal language, rules, and procedures that will allow the full integration of the Nation's armed services in the conduct of future joint military operations.

Doctrine for combined operations prepares the Army to operate with forces from allied nations, such as these Federal Republic of Germany soldiers in formation with American soldiers after an exercise.

Combined Operations

Because the United States has an alliance-based defense strategy, improved interoperability and standardization between the United States and its allies are essential to maintaining an effective deterrent posture. The Army must be prepared to conduct combined operations (operations that involve forces from two or more countries). Efforts are on-going with NATO countries and other key friendly nations to improve the Army's ability to operate in concert with their forces. Training in combined exercises also contributes to the development and refinement of common doctrine, tactics, procedures, and equipment. The aim is to improve combined warfighting capabilities by standardizing as wide a range of activities and equipment as possible.

Low Intensity Conflict (LIC)

LIC is a politico-military confrontation between contending states or groups, usually involving protracted struggles between competing principles or ideologies. LIC ranges from subversion to the use of armed force and is waged with all elements of national power - political, economic, informational, and military - with the military element often playing a predominantly supportive role. LIC is often localized, generally in the Third World, but normally contains regional and global security implications. The four broad categories of LIC - support of insurgencies/counterinsurgencies, combating terrorism, peacekeeping operations, and peacetime contingency operations - span the continuum from peacetime competition to war and can occur singly or simultaneously in a theater of operations. LIC is the security challenge most likely to confront the Army in the 1990s.

LIC is not new to the Army. Before the emergence of the United States as a world power, the Army performed most of the activities that today are included under the broad rubric of LIC. Insurgency and counterinsurgency, combating terrorism, pacification, nation building, rescue operations, foreign internal defense, security assistance, shows of force, peacekeeping, civic actions, and civil affairs have all formed a part of the Army's heritage.

The Army's doctrinal manual on LIC has been written in cooperation with the Air Force and presents the four categories of LIC. It also describes the five imperatives for successful conflict termination - political dominance, legitimacy, unity of effort, adaptability, and perseverance. When published, it will support joint doctrine, complement AirLand Battle doctrine, and provide guidance to Army commanders and staffs charged with LIC-related duties.

Special Operations

The Army provides the preponderance of Special Operations Forces (SOF) to the CINCs for execution of different contingencies around the world. Special operations include the range of activities performed by special forces, rangers, special operations aviation, civil affairs, and psychological operations units. The creation of the United States Special Operations Command in 1986 and the U.S. Army Special Operations Command as its Army component during FY90 will greatly increase the visibility and enhance the importance of special operations in general. SOF may be required to execute sensitive missions authorized by the National Command Authorities, but SOF are also integral to the operations of Army and joint forces in all situations. These include a role in nation building and support for U.S. country teams worldwide.

The Army is currently developing doctrine for employment of SOF. TRADOC is revising two manuals, Special Forces and Army Special Operations, and writing the initial manual for special operations aviation.

Force Protection (FP)

The worldwide terrorist threat against members of the armed forces and their families remains. With drug trafficking and related violence in Latin America and heightened tensions in the Philippines, the total threat has increased. The Army continues to rely on the worldwide security umbrella of FP. FP integrates combating terrorism, law enforcement, physical security, personnel protective services, crime prevention, and operations security programs with various other intelligence, counterintelligence, and security programs into one functional entity. Already fully implemented at Headquarters, Department of the Army (HQDA), this concept is now being adopted throughout the Army.

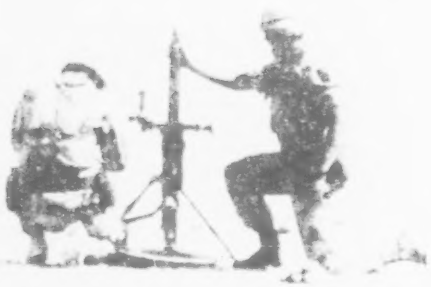
Over $300 million annually is devoted to all FP mission areas ($70 million alone for combating terrorism). New and enhanced access control systems, barriers, close circuit TVs with low-light surveillance cameras, alarms, sensors, secure commercial communications, intelligence and information management systems, as well as "hardened" emergency operations centers are but a few of the items funded. TRADOC currently conducts nine specialized FP courses at several locations. Installations throughout the Army have now started organizing, equipping, and training special reaction teams to respond rapidly to terrorist and criminal incidents occurring on military installations.

Security and Force-Protection Enhancement Resources (SAFER), an innovative technology-based security initiative, is progressing on schedule. Under SAFER, integrated, deployable, modular force protection packages consisting of sensors, cameras, alarms, and other security devices are installed to enhance security for combat support and combat service support elements deployed overseas for exercises as well as for both joint and combined operations.

Future Doctrine

The Army will adjust to the challenges of the future just as it has adapted to the challenges of the past and present. The AirLand Battle-Future Umbrella Concept is being developed to portray how the Army will conduct joint and combined operations from the tactical to the operational level, within a strategic context, to meet its worldwide commitments at a point in time 15 years hence. When fully developed as an "umbrella" concept - then validated via analysis - AirLand Battle-Future will provide insights with which to drive evolution of Army doctrine, training, organization, materiel, and leader development. However, at this stage in its development (Phase I of III), AirLand Battle-Future does not yet provide sufficient resolution for detailed planning and programming. Until this development is completed, AirLand Battle will continue to serve as both the Army's capstone doctrine and its umbrella concept.

In the future, the Army will be called upon to promote stability by assisting friendly governments in the developing world to build their nations. The focus of these efforts will be to help governments achieve sustainable economic development and meet the basic needs of their citizens. AirLand Battle-Future will also provide the basis for doctrine in this area. As doctrine is developed, support capabilities (medical and engineer) will be emphasized. Doctrine will also make clear that these efforts are assistance. U.S. activity will emphasize training and transfer of skills in nation building, rather than performance of these missions by U.S. forces.



Doctrine for the future must prepare the Army to conduct a range of operations in a variety of environments.

V. Force Structure

The Army must maintain the force size and mix needed to fulfill its roles in the national military strategy.

Overview

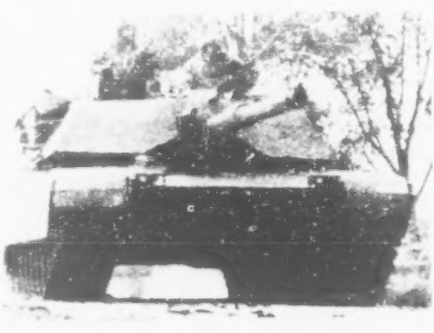
The Army shapes its forces to fulfill the U.S. need for a worldwide, sustained, land combat capability. Its structure is carefully tailored within manpower and fiscal constraints to optimize its warfighting capabilities against the multiple and varied threats of the international environment. It is composed of a combination of U.S.-based and forward-deployed heavy, light, and special operations forces distributed between the AC and the RC.

Determining the proportions of the AC and RC is a difficult process that is influenced by the present threat; warning time; the Army's ability to train, to modernize, and to mobilize; and the requirements for versatility and deployability. The RC currently accounts for 10 of the Army's combat divisions and "rounds out" 9 of the Army's 18 AC divisions with 7 brigades and 5 battalions. The majority of combat support and combat service support units are in the RC, as are more than half of the soldiers in the Total Army.

The Army, in conjunction with DOD, is evaluating the current policies and practices of its Total Force Policy in response to a provision of the FY90 Defense Authorization Act.

Heavy Forces

Heavy forces consist of armored and mechanized infantry divisions designed to fight and win against a mechanized enemy on a mid to high intensity battlefield. An armored division consists of six tank and four mechanized infantry battalions, while a mechanized infantry division has five tank and five mechanized infantry battalions. The Army has six armored and eight mechanized infantry divisions. Ten divisions are in the AC, while four divisions are in the RC. Four AC heavy divisions have RC roundout brigades.



Heavy forces are designed for high intensity combat.

Heavy divisions continue to modernize with the fielding of Bradley fighting vehicles, Abrams tanks, and Apache attack helicopters to both the AC and RC. Modernization in field artillery includes the fielding of the Multiple Launch Rocket System (MLRS) and the M109 Howitzer Improvement Program in divisions and corps. Command and control is being enhanced with the fielding of the Mobile Subscriber Equipment, which is the present state-of-the-art area communication system.

Sustainment capability is being significantly improved by redesign of the combat service support structure in the division to include a forward support battalion for each combat brigade and a main support battalion in the division rear area.

Light Forces

Light infantry divisions are configured for rapid deployment and provide a capable, versatile force immediately available to the National Command Authority. There are four light infantry divisions in the AC, two of which have roundout brigades from the RC. An additional light infantry division is in the RC.

Light forces provide rapidly deployable combat power.

Some units of the air assault and airborne divisions have been modernized and lightened to afford unique mission capabilities. These units have increased mobility and improved reconnaissance assets and can deploy in hours to any trouble spot worldwide.

In many situations, it is necessary to integrate heavy units with light units to achieve the required combat power. This was most recently demonstrated in the successful contingency operation in Panama - Operation Just Cause. Airborne and special operations forces deployed rapidly to Panama to conduct operations in conjunction with previously deployed heavy and light forces. These units formed a lethal and flexible force specifically tailored to the operational requirements.

The Army has a Heavy-Light Forces Integration Improvement Plan to maximize the opportunities for heavy and light forces to train together; identify and resolve problems; and relate the lessons learned to doctrine, training, organization, materiel, and leader development. Readiness will be improved by this process.

In conjunction with heavy forces, light forces afford an increase in flexibility to respond as an integrated strategic force. Differences in mobility and support structure require careful planning when heavy and light forces are employed together; however, the unique capabilities of each can combine to enhance the total force effectiveness.

Special Operations Forces (SOF)

Army SOF provide critical combat capabilities uniquely suited to the Nation's security requirements. Of approximately 25,000 Army SOF soldiers, 14,500 are in the RC. SOF consist of special forces (SF), ranger, special operations aircraft (SOA), psychological operations (PSYOP), and civil affairs (CA) units. These specialized units provide a range of military options.

SF train and assist foreign military and paramilitary forces in unconventional warfare, foreign internal defense, direct action, special reconnaissance, counterterrorism, and humanitarian assistance. They are capable of conducting integrated, joint, and combined operations in remote, urban, or rural environments during peace and war to promote national and regional stability. Army SF played a major role in the Panama contingency operation, conducting reconnaissance and surveillance of key sites throughout the country prior to the commencement of hostilities. SF will also have a major role in post-contingency operations, training the Panamanian Public Forces. The Army has four special forces groups in the AC, two in the USAR, and two in the ARNG.

Special operations forces have unique mission capabilities.

Rangers are highly skilled light infantry employed primarily for unique direct action operations. Rangers are targeted against time-sensitive objectives of critical significance. Rangers may conduct these operations independently, in support of conventional forces, or in support of other special operations forces. For example, during the Panama contingency operation, the rangers' high level of training and leadership was responsible for the successful rapid strategic deployment and subsequent airborne assault, seizure, and security of multiple objectives in preparation for follow-on conventional forces. The 75th Ranger Regiment consists of a regimental headquarters, headquarters company, and three ranger battalions. All ranger units are in the active force and number 1,854 soldiers.

Army SOA provide specialized aviation support to SOF. Specially trained crews and modified aircraft provide a unique capability to perform SOF missions at night and during adverse weather. Army SOA units played a major supporting role in the Panama contingency operation, inserting reconnaissance and surveillance teams, inserting teams to control vital communication nodes, and providing helicopter gunship and troop lift support to the SOF ground commander. The Army currently has 1,921 soldiers in 1 active SOA group headquarters, 3 active SOA battalions, 2 active separate SOA companies, 1 active SOA detachment, and 1 RC SOA battalion in the Oklahoma National Guard.

CA forces are highly skilled personnel and units trained to provide civil-military operations (CMO) support to governments and friendly armed forces under peacetime, contingency, and regional and global conflict conditions. CMO activities embrace the interaction between military forces and civilian authorities and population, and foster the development of favorable attitudes within the population. The employment of CA is particularly useful in low intensity conflict. Most CA units are in the USAR, with only one unit in the active force. Reserve Component CA personnel are making a major contribution in reestablishing a government structure in Panama, providing expertise in such diverse areas as public utilities, legal systems, health, and finance. There are more than 4,821 soldiers in 36 CA units stationed in 22 states.

PSYOP forces are organized, trained, and equipped to support friendly forces at strategic, operational, and tactical levels. Using audio-visual, print, and telecommunications capabilities, PSYOP forces seek to influence the target audience in accordance with the commander's objectives. PSYOP is particularly critical to success in low intensity conflict. For example, PSYOP forces deployed to Panama with other SOF and conventional forces and were responsible for minimizing casualties by helping convince members of the Panamanian Defense Forces to lay down their arms and avoid further bloodshed, as well as by convincing the Panamanian people to support the new government. PSYOP provided the only radio support available to the new Panamanian government. The Army maintains 1 PSYOP group and 4 battalions in the AC, with 3 groups, 6 battalions, and 22 companies in the RC.

Force Structure Adjustments, FY90/91

The FY91 budget marks the beginning of the Army's transition to the smaller, capable Army of 1995. The Army's plan for this transition is to reshape both active and reserve forces by making reductions based on a careful analysis of the evolving threat, strategy doctrine, resources, and the requirements of the warfighting CINCs. Active reductions will reduce both combat and support forces at home and abroad commensurate with the threat and appropriate international agreements. Reserve force reductions will also be taken in combat and support forces in consonance with warfighting requirements.

The FY91 budget required the Army to reduce its active end strength to 727,500. To accommodate this reduction, the Army proposes inactivating the 2d Armored Division at Fort Hood, Texas, and reducing the 9th Infantry Division (Motorized) at Fort Lewis, Washington, to a motorized brigade. These reductions would permit the move of the 7th Division (Light) from Fort Ord, California, to Fort Lewis, the subsequent closing (or quasi-closing) of Fort Ord, and the possible return of a division from Europe to Fort Hood following appropriate legal and environmental action. While the Army fully intends to reduce its forward-deployed forces as the international environment stabilizes, reductions of Army forces in Europe are linked to the ongoing CFE negotiations. The Army also will propose reducing the 194th Armored Brigade at Fort Knox, Kentucky, to a task force and inactivating one field artillery battalion each at Fort Stewart, Georgia, and Fort Ord.

USAR and ARNG end strengths will be held to about 309,000 and 447,000 respectively through at least FY91. This end strength will have a positive effect on RC readiness as the match between structure and manpower is refined.

Programmed refinement and readiness of the RC are dependent upon continued support in the budget process. Future budgets will significantly affect RC readiness, training, equipment distribution, and, therefore, the ability to mobilize. The security challenge requires a balanced force structure capable of meeting worldwide commitments. The RC forces are integral parts of this structure.

In April 1989, the Under Secretary of the Army and the Vice Chief of Staff, Army, jointly chartered a study to examine the command and control structure of the USAR. The objective of the study was to identify alternative command and control arrangements that will improve the readiness and deployability of the USAR. The study effort included all aspects of the USAR en-

vironment, drawing on expertise at HQDA and throughout the Army in the field, both in the AC and the RC. A formal report will be submitted to the Congress in the 2nd Quarter FY90.

On January 11, 1990, the Secretary of Defense imposed a DOD-wide hiring freeze for the remainder of FY90 as a means of attaining a smaller civilian work force. While there are exception provisions, approval for exceptions is held at the Secretary of the Army and the Secretary of Defense level. The Army will face challenges in maintaining a proper skill distribution and the morale of its civilian and military work force and their families as it proceeds with the reshaping of the force.

Force Structure Trends

Trained and ready Army units, both globally deployable contingency forces and forward-deployed forces, backed by rapid reinforcement from the United States, will remain the centerpiece of the Nation's military strategy for the foreseeable future. The size and mix of the force structure must be reassessed continuously in view of the evolving global security environment. New far-reaching developments, such as decreases in resource levels, escalating operating and modernization costs, ongoing national security reviews, and arms control negotiations, have the potential to affect markedly the size and balance of the force.

The Army will continue to maintain forward-deployed forces to meet national security commitments and maintain the credibility of the Nation's deterrent strategy. However, the easing of global tensions, coupled with reduced military threats, may require fewer of these forces. This will cause greater reliance on ready, flexible, and rapidly deployable contingency and reinforcing forces - elevating the need for greater strategic mobility. Since advances in strategic lift alone may not adequately meet Army requirements, future Army contingency and reinforcing forces must be designed to be more strategically deployable with no decrease in combat capability. It is imperative that future Army forces be capable of:

- Attaining a clear tactical advantage wherever committed;

- Conducting land campaigns and simultaneous close and deep operations;

- Maintaining superior force agility through both physical capabilities and leader development;

- Fighting outnumbered and winning; and

- Linking the strategic, operational, and tactical levels of war.

Forward deployed forces — like this soldier near the demilitarized zone in Korea — continue to support the U.S. national military strategy.

VI. Training

Tough, realistic training is the cornerstone of combat readiness.

The Training Requirement

The Army is charged with maintaining the conventional forces required to deter war and to terminate on terms favorable to the United States wars that do start. Combat-ready soldiers, leaders, and units form the basis for deterrence and effective warfighting, and training is the key to their combat readiness. It is the vehicle through which the Army's quality soldiers and leaders develop the warfighting proficiency and exercise the collective capabilities they will require in combat. It prepares these soldiers, leaders, and their units to fight and win in war - the Army's basic mission.

The Army's assessment of the evolving international environment indicates requirements for versatility, to address a wide variety of threats with a smaller force; for rapid deployability, to react globally on short-notice; and for lethality, to quickly terminate conflicts by maximizing the advantages provided by modern weapon systems. The alert, deployment, and night assault of Army SOF, airborne, and light forces into Panama in conjunction with forward-deployed light and heavy forces only 60 hours after the President's decision to employ U.S. forces would not have been possible without well-trained soldiers and leaders.

Unit Training

The ultimate measure of readiness is whether soldiers, leaders, crews, and teams can perform together as a unit to synchronize their efforts and project combat power at the decisive place and time in battle. The Army is committed to preparing units to respond to varied threats and in extremes of climate and terrain.

Combat Training Centers (CTC)

The CTC program is central to the Army's approved joint training strategy to prepare the Total Army to win in any type of conflict. It includes the National Training Center (NTC), the Joint Readiness Training Center (JRTC), the Combat Maneuver Training Center (CMTC), and the Battle Command Training Program (BCTP). The CTC program is designed to train the Army's combat, combat support, and combat service support units - battalion through corps - for combat. An additional goal of the CTC program is to collect data that will contribute to increased force readiness, equipment and materiel development, organizational structure and design, and doctrine and tactics advancement.

The NTC at Fort Irwin, California, provides realistic combat training in mid to high intensity scenarios. The NTC continues to increase its capabilities, including improved instrumentation and more evaluation of brigade operations.

The National Training Center provides an intense training environment for armor and mechanized infantry forces.

The JRTC, currently located at Fort Chaffee, Arkansas, provides training for nonmechanized battalion task forces in low to mid intensity combat environments. The JRTC continues to refine light forces scenarios and to expand the challenge to include mixed light and heavy operations.

The CMTC provides NTC-like training experiences at Hohenfels, Federal Republic of Germany, for 52

forward-deployed battalions and ground cavalry squadrons. The CMTC concept permits training against a permanent opposing force that will be activated in FY91. The instrumented battlefield with standardized feedback will allow better evaluation and training of units.

The BCTP is designed to provide division and corps commanders and their battle staffs collective training opportunities. The program consists of a battle training seminar that allows the commander and staff to discuss AirLand Battle doctrine and a warfighter exercise that trains the commander and staff in an environment that replicates combat. BCTP, supported by a skilled opposing forces organization, continues to train both AC and RC units.

Army and Joint Exercise Program

The Army conducts or participates in a full range of joint, combined, and unilateral exercises under the Army Exercise Program. The Army holds unilateral exercises at corps level and below, while joint and combined exercises are normally conducted as part of the JCS Exercise Program. There are two categories of JCS exercises. The first includes a no-notice interoperability exercise to practice joint command and control in small-scale regional contingencies, as well as worldwide command post exercises to test plans, policies, and procedures in mobilization, NATO reinforcement, and nuclear attack and continuity of government. The second category consists of JCS-directed or coordinated exercises sponsored by the various CINCs. These include the following:

- REFORGER is the largest CONUS-based deployment exercise and demonstrates rapid reinforcement of NATO and U.S. warfighting capabilities, improves NATO interoperability, and exercises general defense plans. U.S. Army, Europe (USAREUR), has developed a new concept for REFORGER exercises called the REFORGER Enhancement Program (REP). Under the REP concept, field training exercises, command post exercises, and command field exercises will be integrated to run concurrently through the use of simulations. The number of brigade and battalion headquarters participating will nearly double, while the number of soldiers in the field will decline. USAREUR tested and proved the concept, which drew heavily on high technology simulation advances, in September 1989 during Exercise Caravan Guard 89.

- Team Spirit includes forces from both the United States and Korea. This field training exercise includes soldiers from I Corps at Fort Lewis, Washington, the 25th Infantry Division (Light) in Hawaii, and a large number of RC combat service support units from CONUS. The exercise offers deployment training for troops based in the United States as well as unique joint and combined training for all participants.

- Bright Star occurs every other year and includes the deployment of CONUS-based forces to various countries in Southwest Asia. The exercise emphasizes strategic mobility and the rapid deployment of combat-ready troops. More than 6,000 Army soldiers participated in Bright Star 90.

- Fuertes Caminos and Ahuas Tara deploy CONUS-based forces to Central America. The bulk of the troops participating in these exercises are engineer and medical personnel from the RC. The exercises demonstrate U.S. commitment to the region.

The Army participates in more than 50 JCS exercises each year, with Army incremental support costs of approximately 585 million. These exercises include the deployment of soldiers and equipment throughout the world and allow the Army to practice the procedures and activities that are essential to maintaining the rapid response and reinforcement capabilities required for deterrence. This training is not limited to the AC, as every major JCS exercise includes RC participation.

A French lieutenant works in a simulation center during Exercise Caravan Guard 89.

Soldier Training

The institutional training base provides soldiers with basic, advanced, and specialized skills necessary to meet Army requirements.

Initial Entry Training

The Army is meeting the training challenges of the 1990s through improved efficiencies in the training base. The Army continues to limit the number of basic combat training graduates who must make costly moves to receive advanced individual training. The number of one-station unit training companies will stay constant. The Army has also implemented the Initial Entry

Soldiers go through an obstacle course during basic combat training.

Training Plan, which increases the role of drill sergeants as primary instructors for platoon level training.

Specialized Individual Training

The Army emphasizes selecting and training soldiers in critical additional skills. Over 3,600 soldiers attended the four-phased ranger training program in FY89. Graduates receive follow-on assignments with the 75th Ranger Regiment or one of its three battalions, or they disseminate their enhanced small unit training skills in other units to which they are assigned. During FY90, the Airborne School will train over 23,000 soldiers, with an additional 1,000 attending pathfinder and jumpmaster programs. Mobile training teams from the school will train an additional 500 jumpmaster students. The school provides the trained manpower for all airborne units in Forces Command, U.S. Southern Command, and USAREUR.

The foreign area officer (FAO) program prepares some 140 specially trained officers each year for critical political-military positions. The program consists of a 3- to 5-year training period, which includes language training, graduate school, and a 12- to 24-month training assignment to the officer's region of concentration. This program provides the officer an in-depth understanding of the region's cultural, political, and military environment. The majority of FAOs are assigned to joint, combined, or DOD staffs. FAOs serve as military attaches, security assistance officers, politico-military and intelligence analysts, and as instructors in the Army school system.

The Army, as the DOD Executive Agent for foreign language training, is responsible for providing quality military linguists to the services, the National Security Agency, and the Defense Intelligence Agency. Qualified service linguists are critical in meeting DOD worldwide requirements for human and signal intelligence, performing U.S.-Soviet treaty verification tasks, and training civilian linguists for the Drug Enforcement Agency. Sufficient resources are available to support the development of these national assets at the Defense Language Institute Foreign Language Center and to meet the increasing demand for qualified linguists in support of global commitments.

Army Physical Fitness Program

The Army completed an assessment of AC physical fitness during FY89. The results indicate a need for more intense physical training and a requirement for programs to be based on unit mission instead of the Army Physical Fitness Test. Army senior leadership guidance and FY90 doctrinal changes require fitness programs to be battle focused and intense enough to provide maximum benefit to soldiers.

Key to the Army's success is sustainment of the Master Fitness Trainer program. More than 1,400 soldiers are trained each year by the Army Physical Fitness School to develop and sustain unit programs based on sound scientific principles and proven fitness techniques.

Distributed Training

Army training resources are decreasing, especially in training support, yet training requirements are not shrinking, and may actually be increasing. Short-term reaction to this lack of resources has been to cancel and shorten courses. The Army is developing a long-term plan to deal with these pressures and to meet requirements by using technology to export training and training support materials from resident schools to regional centers, units, learning centers, and individuals. The plan is called the Distributed Training Strategy. The plan calls for exporting existing resident instruction, reducing the total time required for training, and paring classroom and base operations requirements.

The Distributed Training Strategy calls for heavy use of technologies, such as computer-based instruction, expert systems, interactive video disc, and video conferencing, to generate total cost savings through the investment of the money and effort required to distribute the training. The technologies will allow the Army to reach many students without spending money to move them to the classroom. The training will also be available for large numbers of individuals, like those in the RC, not adequately served by the current resident system without an increase in the number of instructors.

Pilot projects started in FY89. A more extensive series of such test projects will be run in FY90, ranging widely across analytical skills, high-tech military occupational specialties (MOSs), various delivery media, and active, civilian, and reserve populations. The pilot projects will help further shape the concept and implementation of the Distributed Training Strategy.

Training Support

Training support provides the foundation for the key activities of field maneuver training; range fire; device, simulator, and simulations utilization; and numerous other important activities and resources needed to train effectively.

Integrated Training Resource Strategy (ITRS)

The provision of adequate resources is essential for maintaining the level of training required for readiness. In an era of constrained budgets, resources must be allocated in the most efficient and effective manner to maximize their impact. The ITRS is an Army effort to combine the best features of current methods of training research in an approach that integrates simulators, devices, simulations, and ammunition trade-offs.

There are advantages to the current approach for providing training resources to units. Sufficient resources are provided to allow the units a set number of training miles for major equipment systems - their allocated operating tempo (OPTEMPO). Data collected over the past 4 years indicates that when the level of HQDA-directed OPTEMPO changes, there are corresponding changes in major AC combat commands' training readiness; there are also parallel changes in the affected units' organizational fuel and parts consumption. Additionally, a statistical relationship exists between the number of home station training miles executed and the ratio of enemy to friendly vehicles "killed" at the NTC. The more the units train, the higher their kill ratio.

The ITRS will maintain the current approach for training miles and ammunition; will address both AC and RC unit requirements; and will provide appropriate trade-offs for training devices, simulators, and simulations (TDSS). Several base unit training programs (BUTP), consisting of packages of miles and rounds, will be developed for each type of battalion. BUTPs will allocate more resources for units that are scheduled to be "first to fight" in war plans. Later deploying units may receive fewer resources since more intensive training time will be available between initial notification and deployment. The ITRS will also consider the training transfer provided by TDSS. For example, a tank battalion with access to a sufficient number of Close Combat Tactical Trainers may receive a corresponding decrease in OPTEMPO and of main gun ammunition. As a goal, the Army will strive to have an ITRS methodology in place to allocate training resources in the FY94-99 Program Objective Memorandum (POM).

Battlefield Training Simulations

The Army's program to take advantage of state-of-the-art battlefield training simulations is called Family of Simulations (FAMSIM). FAMSIM is a key training system that develops and sustains warfighting skills for commanders and their battle staffs. It is composed of three systems: the Deep Battle Integration Trainer (DBIT), the Brigade/Battalion Simulation (BBS), and the Combat Service Support/Training Support System (CSS/TSS). DBIT trains division and corps commanders and their battle staffs. It has revolutionized the way major combat units train because it allows for dynamic, stressful command and staff activities without placing maneuver forces in the field. Under DBIT, the Army has provided a battle simulation center to five corps and the Combined Arms Center at Fort Leavenworth, Kansas. The BBS program trains brigade and battalion commanders and their battle staffs in warfighting skills. It and its predecessor, the Army Training Battle Automated Simulation System, have had the same positive impact as DBIT. CSS/TSS provides a dynamic logistical simulation driven by either DBIT or BBS depending upon the echelon of the staff being trained.

Training Devices and Simulators

The Army is making great strides to offset the cost of training with more sophisticated weaponry by using devices and simulators. To reduce this cost, the Army is moving toward precision gunnery laser systems that will reduce the requirement for live fire. Training devices and simulators also have a positive impact on the continuing efforts to minimize the environmental impacts of training. Training devices such as the Precision Gunnery System and the Tank Weapons Gunnery Simulation System permit training in local training areas rather than travelling to major training areas to fire live ammunition. The Close Combat Tactical Trainer will permit force-on-force training in networked simulators, reducing the fuel, maintenance, and other expenses of training all collective tasks in the field. Training realism is enhanced substantially through such systems as the Simulated Area Weapons Effects, which will assess casualties for indirect fire, much the same as the Multiple Integrated Laser Engagement System has done for direct fire weapons since 1980. Although devices and simulators can never replace field conditions, they can reduce required field time by training basic tasks in simulators before refining and testing the skills in the field.

The Multiple Integrated Laser Engagement System

Range Modernization Program

Success on the battlefield is not possible without an aggressive program to upgrade existing ranges and build new range complexes that support the live fire gunnery and training requirements associated with AirLand Battle doctrine and modern weapon systems.

Since 1984, the Army's Range Modernization Program has revolutionized live fire qualification and sustainment training by using standardized ranges for individual and collective training and a family of computerized targets (Remotely Engaged Target System). Funding for the program peaked in 1984. Funds have steadily declined since, causing a backlog of projects. To offset this trend, validated range projects satisfying training readiness requirements will be treated as priority items in the FY92-97 POM development. In FY91, the program resources 13 active Army and 10 ARNG range projects at various CONUS and overseas installations.

Reserve Components (RC) Training

As a result of a year-long study effort, the Army has adopted a comprehensive training strategy to improve RC training readiness. The strategy, and the ensuing action plan, is to focus on all dimensions of soldier, leader, and collective training and on training support and training management. The goal is to raise RC training readiness by providing more efficient and effective training.

The RC Training Development Action Plan (RC TDAP), adopted in May 1989, provides Army implementing guidance for the RC training strategy. It is the primary source for actions to improve RC training readiness. The RC TDAP identifies 38 issues which are obstacles to effective RC training, as well as actions and milestones for resolving those issues. HQDA oversight of RC training is the single highest priority of the RC TDAP. HQDA oversight will enable the Army to ensure that the RC TDAP actually implements the RC training strategy and measurably improves RC training readiness.

RC Training Activities

Military occupational specialty qualification (MOSQ) continues to be a major training priority with the RC. The objective is to have 85 percent of the soldiers at battalion level with the proper MOS and skill level. While some of the current problems are geographic and demographic (a unit needs one MOS, but the available soldiers have another MOS; or a unit changes from one branch or type of equipment to another but keeps the same soldiers), most of the solutions are in training. TRADOC has developed a large number of exportable training packages which the ARNG academies and USAR Forces schools are using extensively. These two portions of the RC school system are working cooperatively to schedule courses and students, avoid duplication, and make their respective systems more efficient. They are also making use of community colleges, vocational and technical schools, and other available civilian training assets. The Army is working to reduce the tremendous turbulence in MOSQ and other areas created by force structure changes and force modernization.

The Regional Training Site - Maintenance (RTS-MAINT) program offers transition and sustainment training for RC soldiers in maintenance specialties. When the program is complete, there will be 21 regional sites in CONUS and Hawaii. Tools, diagnostic equipment, and major components (e.g., engines, transmissions) at the sites will enable citizen-soldiers to get hands-on training with the Army's newest generation of weapon systems.

Thirteen standard RTS-MAINTs will have been activated for training by the 2nd Quarter FY90. Six other RTS-MAINTs are programmed for activation by FY93. Two additional high technology maintenance regional training sites will be activated for training at the Tobyhanna, Pennsylvania, and Sacramento, California, Army depots to train personnel in highly technical electronics and communications MOSs. Each standard RTS-MAINT requires 14 full-time Active Guard and Reserve personnel. Constraints on the full-time support manning program could affect RTS-MAINT staffing and full implementation of this program.

The High Technology Training Center (HTTC) at Fort Dix, New Jersey, uses training devices and simulators not available at local RC unit facilities to provide individual, small unit, and battle staff training to RC soldiers. After 18 months of operation, the HTTC has trained personnel for more than 34,000 mandays.

The Training Technology Field Activity was established at Gowen Field, Idaho, with the mission of testing training methods and applications to improve RC training. Projects have included a soldier survey on improving inactive duty training and tests on distributive training delivery methods. A major test of a squad engagement training system will be conducted in FY90.

The Regional Training Site - Medical (RTS-MED) program will provide RC medical units an opportunity to train in their wartime mission. The program provides cadre, medical equipment, facilities, and appropriate maneuver and training areas to conduct new equipment training and sustainment on the Deployable Medical Systems. Two of the seven RTS-MED sites (Camp Shelby, Mississippi and Fort Indiantown Gap, Pennsylvania) are fully operational, with the remaining sites to be phased in by FY93. The standard site will encompass a 5-acre training, classroom, storage, and maintenance area. This will provide RC medical units an opportunity to conduct individual and collective unit training in a 400-bed evacuation hospital.

Centralized ARNG Aviation Training Sites (AATS) located in Pennsylvania and Arizona provide standardized and specialized aviation training. The eastern AATS stresses individual aviator qualification training in utility and cargo rotary wing aircraft and selected fixed wing aircraft. It operates a regional UH-1H Synthetic Flight Training System and an AH-1 Flight Weapons Simulator (FWS) supporting aviators from the AC and RC on a regional basis. In FY89, 20,068 aircrew flying hours were logged at this site. The western AATS, which also operates an AH-1 FWS, focuses on attack and

aeroscout rotary wing training. The western site logged 7,301 hours of aviator training during FY89. These two training sites are the only RC training sites authorized to conduct helicopter instructor pilot qualification courses. They have a mission to provide an immediate expansion capability for the Army's aviation training base upon mobilization.

Overseas Deployment Training (ODT)

ODT for RC units provides realistic mission training and contingency planning in support of U.S. military commands throughout the world. The participating units become familiar with the actual terrain and political environment in their assigned theaters, while contributing to a peacetime U.S. presence worldwide.

Due to budget constraints and lowered levels of JCS exercises, ODT deployments have been reduced to approximately 2,000 units and 42,000 soldiers in FY90.

The Army recently completed a full assessment of ODT. Its findings and conclusions were based on the views of 14 CINCs and Army component commanders. The commanders strongly endorsed ODT because it supports their theater objectives and enhances the readiness of participating units.

Training for the Future

Training is the Army's most important peacetime mission. It is the cornerstone of readiness. Technological developments, environmental concerns, changes in the demographics of the American population, reductions in resources, changes in the threat, and other factors drive the need to constantly reexamine the way the Army trains. Training methods must continue to evolve in the future to meet new challenges.

Trainers, weapon and force designers, resource managers, and all others whose work impacts on training must work together to ensure that future training meets the needs of the Army. They must develop and provide resources for plans to support the fielding, employment, and training of the Total Army so that it is prepared to carry out its missions in the future.

The use of simulations in training will increase in the future

As the Army moves toward the 21st century, institutional and unit training programs will expand the use of simulations and simulators to reduce costs and increase realism, especially in the RC. Computer-based instruction and distributed education strategies will be an integral part of training. Requirements for integrated, multi-echelon training will continue, with increased emphasis on joint and combined operations.

The Army Long Range Training Plan (ALRTP), published in July 1989, provides planners and training developers the guidance required for the development of policies and the acquisition of resources to train all elements of the Total Army for the next 30 years. The ALRTP describes future trends in the environment in which training will be conducted, makes assumptions concerning areas relevant to training, and identifies future force characteristics and capabilities. It also specifies future training requirements for facilities, real estate, and TDSS that must be available in conjunction with the employment of new doctrine, organizations, and weapon systems.

Sustainment for Training and Warfighting

Sustainment refers to the ability to maintain the necessary level and duration of operational activity to achieve national objectives. It is a function of providing for and sustaining the Army's existing forces as well as addressing the potential warfighting needs of the CINCs. Achieving a trained and ready force is clearly not solely a function of OPTEMPO and flying hours. The Army cannot maintain the levels of readiness required of it without an effective sustainment program. The Army's sustainment program requires appropriate levels of funding to ensure essential materiel readiness through depot supply, depot maintenance, transportation, and strategic mobility operations; essential personnel readiness through effective medical support and organizational equipment programs; and essential warfighting readiness through theater reserve and industrial base programs.

The U.S. Army has made great progress in overall sustainability in the past few years, but essential investment has not kept pace with requirements, particularly in the areas of worldwide mobility, adequate war reserves, and the maintenance of an industrial capacity capable of providing the Army necessary battlefield systems. Moreover, fiscal constraints will challenge the Army's ability to maintain its progress. In the future, the Army will have to adjust its sustainment programs to account for changes in its forward-deployed forces, to include any reductions in Europe as a result of the CFE negotiations. It is likely that funding for sustainment will be reduced as the force structure is reduced. Consequently, the Army is working hard to increase its efficiency in overall sustainability by implementing recent Defense Management Review recommendations (see Chapter IX).

Depot Maintenance Program

Annual Army sustainment costs for the depot maintenance program are approximately $2.2 billion. The program is comprised of:

- Hardware maintenance ($1.5 billion for FY91), which includes repair and overhaul of major items (weapons, vehicles, aircraft, etc.) and depot level repairables (engines, transmissions, and replaceable components). Depot level repairables will begin to be transferred to the stock fund in FY91.

- Maintenance support activities ($.7 billion in FY91), which provide new equipment training, simple data collection, technical assistance to field units, development of technical publications, and maintenance and upgrade of weapon system software. Maintenance support activities are funded at approximately 59 percent of requirements. Such shortfalls in these programs, critical to supporting soldiers in the field, result in higher maintenance costs in the long run.

Depot maintenance may be performed in organic Army depots (total $1.1 billion in both FY90 and FY91) or in contractor facilities. Requirements increase annually due to new and more technically complicated equipment being brought into service. Requirements that are not funded in one year are included as part of the next year's requirements. The FY90 deferred requirement is $70 million, declining to a projected $66 million for FY91, a serious Army problem receiving close management attention.

The major end item repair and overhaul program is funded at 92 percent of the Army requirements for FY90 and FY91 respectively. Near-term readiness will receive the highest priority, with funding for depot level repairables at 100 percent in both years. This means that risks and shortfalls are being accepted in the overhaul and repair of major items, another major Army problem.

Supply Program

Central supply and transportation programs provide the logistical support necessary to train and sustain U.S. combat forces. This program also finances operation of Army commissaries, worldwide transportation, industrial preparedness, and other vital sustainability programs. Annual funding is $2.8 billion in FY90 and $2.5 billion in FY91. Current funding will accommodate only the highest priority logistics support requirements. Inadequate funding of logistics programs, such as inventory management and care of supplies in storage, erode the ability of central supply and transportation to provide quality logistical support to Army combat units and installations.

The Combat Authorized Stockage List (ASL)/ Prescribed Load List program provides units the essential repair parts required to support and sustain combat until the logistics system adjusts to increased demands. It brings AC and RC units additional essential support maintenance capability. The program is a combat multiplier which anticipates commanders' needs during the initial phases of war and translates them into critical requirements which are held on-hand. Stockage is based on state-of-the-art computer simulations. These employ current engineering failure data and a combat scenario to predict war time requirements and align assets at the unit, direct support, and depot level. Fiscal constraints require that 100 percent of this program be applied in support of overseas requirements, which leaves CONUS requirements underfunded. The Army plan is for completion of 20 percent of the standardized Combat ASLs for divisional and non-divisional AC and RC early deploying units by FY94.

Stockage of repair parts must be adequate to support maintenance during combat and training

The Air Line of Communication (ALOC) Program provides rapid movement of repair parts by air from stateside depots to direct support units overseas. ALOC objectives are to improve supply support, enhance materiel readiness, and to exercise the wartime resupply system. A detailed review of the costs associated with ALOC was conducted in FY89. The study proved conclusively the value of ALOC to the Army. Savings associated with ALOC include the reduction in equipment down time, the cost avoidance of supply pipeline investment, and the reduction in materiel handling at intermediate transportation terminals. The program receives continuous monitoring and continues to serve Army needs with sustained excellence.

Transportation Program

Transportation supports all Army readiness and quality of life programs for soldiers worldwide. This role means that transporters do not establish requirements independently but react to requirements from other programs. For 3 years, Army budgets have underfunded transportation with the hope that shortfalls could be overcome through greater economies in providing transportation services. Unfortunately, the Army has only limited leverage over the costs of the transportation program. Over 75 percent of the program goes for over-

ocean transportation where DOD sets the rates that the Army must pay to the Military Airlift Command, Military Sealift Command, and Military Traffic Management Command. Although over-ocean transportation for FY91 is currently fully funded, it does not take into account any withdrawal of troops from overseas nor any major redistribution of equipment. Should either of these occur, the Army will require congressional assistance in funding the revised transportation program.

Procurement Spares

The procurement spares program governs the acquisition of depot level repairable (DLR) secondary items. Typical items are components, assemblies, and subassemblies (engines, transmissions, circuit card assemblies, etc.) of weapon systems and equipment. DLRs are currently funded in the Army procurement accounts and are issued free to Army customers. This represents an annual investment of more than $1.4 billion dollars.

The stock funding of DLRs is one of the initiatives of the Army Management Review discussed in Chapter IX. Implementation will begin in FY91 with full implementation in FY93. At that time, replenishment DLRs would no longer be funded in the procurement accounts and provided as free issue. Army customers will use their operation and maintenance funds to purchase replenishment DLRs from the stock fund.

Army Medical Program

Army medical research, development, and acquisition programs support the Army and the warfighting CINCs by providing the technology, technical information, and combat medical materiel essential to sustain readiness, support deployment, and optimize human performance. These programs develop the support and protection necessary to defend against infectious diseases occurring in all geographic regions, deter the use of and minimize the effects of chemical and biological weapons, maximize human performance in high intensity combat and environmental extremes, and provide care for combat casualties to save lives and increase the return-to-duty rate.

Ballistic-laser protective spectacles, helmet visors, and mask inserts for soldiers and aviators will significantly reduce eye injury from low-energy laser radiation and from small ballistic fragments. Site-of-injury resuscitation of battlefield casualties will be enhanced and return-to-duty rates increased through the use of new resuscitative fluids currently in development. A more effective chemical agent skin decontamination kit will be fielded that is non-toxic, safer, and easier to use.

Medical grade oxygen and medical grade water are major claimants on strategic and tactical lift capability. The development of the Field Medical Oxygen Generation and Distribution System will produce medical grade oxygen in the theater, thereby reducing the strategic 60-day lift requirement for a 400-bed hospital from 14 C141 sorties to 1. Similarly, the development of a Resuscitative Fluids Production System will reduce the medical fluid logistical requirement from three C141 sorties to less than one.

Health service support force structure must continue to contribute to the Army's role of providing essential forces to the unified commands while being flexible enough to adjust to the dynamics of developments in the future.

Medical Force 2000 (MF2K) provides health service support at echelons above division through the year 2000 and beyond. MF2K is the initial and long-range medical force structure strategy for the Army. MF2K tenets emphasize maximum soldier return to duty, soldier health maintenance, standard modular hospital designs, enhanced medical training initiatives, far forward resuscitative care, streamlined organizations within medical functional areas, and exploitation of high technology. This medical force structure will give the Army superior medical care on the battlefield. Implementation will be designed to minimize turbulence and maintain maximum medical readiness. MF2K will integrate the operational priorities of the theater commanders, the procurement schedule of Deployable Medical Systems, and changes in health service support structure to give the best medical support to the Army within resource constraints.

Organizational Clothing and Equipment

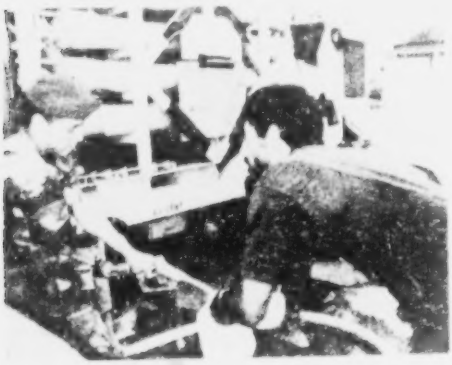
The Army is modernizing organizational clothing and individual equipment. The new items include ballistic eye protection, explosive ordnance disposal body armor, extended cold weather clothing, extreme cold weather sleep gear, and the individual tactical load bearing vest. The modernized items increase the effectiveness and survivability of the individual soldier. The goal is to field items to the Total Army that lighten the individual soldier's load, improve his load-carrying capability, and provide state-of-the-art weather resistance and ballistic protection. In addition to organizational clothing, the Army also is fielding a new green uniform, a windbreaker, and an all-weather coat.

Bulk Petroleum Distribution

The distribution of fuel is critical to deployment and sustainment of ground and air combat forces. Pipeline is the most efficient and least manpower intensive method for distribution of large quantities of petroleum. Since 1984, the Army has been procuring components of tactical pipeline and storage systems. A total of four systems of various sizes are planned. One complete system and four training modules have been procured. In FY91, the program will complete purchase of a second and larger system.

Tactical Water Support

Adequate supplies of potable water are critical to success on the battlefield but are also vital to human survival. This latter fact was reinforced during Hurricane Hugo. Hugo damaged public water systems in the U.S. Virgin Islands, Puerto Rico, and Charleston, South Carolina. The Army supported the stricken areas with its water producing capabilities by purifying, storing, and distributing water to the local citizens. The Army is developing and enhancing its capabilities for the detection, purification, storage, distribution, and cooling of water. Purification equipment can produce potable water from any source, even if nuclear, biologically, or chemically contaminated. Storage and distribution systems using collapsible fabric tanks ensure adequate water support throughout the theater of operations. In FY91, 3,000 gallons per hour reverse osmosis water purification units will be procured for non-divisional and general support units. Future funds will procure additional purification units for divisional and non-divisional units, more collapsible fabric storage and distribution tanks, and water quality analysis units.



Soldiers provide water on St. Croix after Hurricane Hugo

Preferred Munitions

Significant advances in the sophistication and capabilities of the threat have forced technological improvements to the Army's weapon systems and ammunition more rapidly than expected. Preferred conventional munitions are critical to the Army's role in maintaining credible deterrence and its ability to effectively meet worldwide commitments.

Preferred munitions are the most capable rounds available for combat units to engage and defeat a specific threat. The list of preferred munitions changes as the threat and the technology available to defeat that threat changes. Availability of preferred munitions is essential for successful combat, and the Army is working continually to improve its posture in these items. Current stockage levels of preferred munitions provide a minimally acceptable capability to defeat the likely threat. Planned procurement programs will gradually improve the Army's preferred munitions posture over the FY90-94 period. Older, and consequently, substitute ammunition is maintained in the stockpile as long as it is effective against a significant portion of the threat. War reserves of the most capable munitions are especially important in the initial phases of combat before the mobilization base can provide continued sustainment. Examples of preferred munitions are the 120mm armor piercing, fin stabilized discarding sabot tracer and the 155mm base-burner projectile.

Strategic Mobility

One of the Army's primary concerns is the capability to deploy its forces in support of U.S. military strategy. Without adequate strategic airlift and sealift, the Army cannot meet its global commitment to project its forces overseas. Current and anticipated strategic lift capabilities, particularly sealift, fall short of the Army's needs to meet its deterrent and warfighting missions.

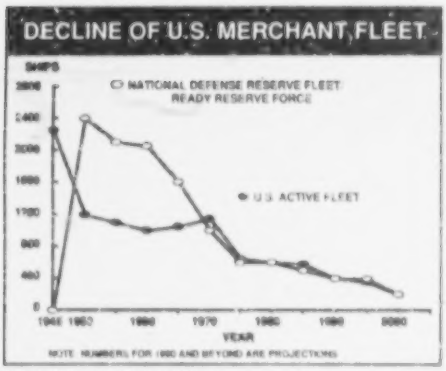
During the early stages of an overseas deployment, the Army needs a rapid response capability to insert forces and provide for the immediate resupply of time sensitive, high priority cargo. Airlift provides for this fast, flexible response. Current airlift programs will increase capability from the current 47 million ton miles per day (MTM/D) to 54 MTM/D in FY94. However, the congressionally mandated objective of 66 MTM/D will not be achieved until completion of the C-17 program. Clearly, the C-17 is critical to the Army's strategic-mobility. This aircraft is designed to support Army requirements, and the Army fully supports its fielding.

While using airlift for rapid response, the Army relies on sealift to move the bulk of its combat power and resupply. Past experience indicates sealift will move about 95 percent of the equipment and supplies into an objective area during a protracted conflict. Unfortunately, all recent mobility studies have indicated a shortfall in sealift capability. Of particular concern to the Army is the shortfall in unit equipment capable shipping.

Adequate airlift and sealift is needed to move Army forces.

Current capabilities will provide approximately 800,000 short tons of the 1 million short tons DOD has set as a goal.

The major reason for the failure to reach the sealift goal is the precipitous decline in the number of U.S. flagged, militarily useful ships. To address the sealift shortfall, the Army recommends completing the Ready Reserve Force fill and increasing NATO shipping. Additionally, the Army supports acquisition of additional fast sealift ships that are commercially viable and continued development of ultra fast sealift technology that could include surface effect fast sealift ships. In the long term, the Army fully supports implementation of the National Sealift Policy.



SOURCE: U.S. TRANSPORTATION COMMAND

Pre-positioning of Materiel Configured to Unit Sets (POMCUS)

POMCUS is organized equipment stored in Europe in company and battalion size packages in a ready-to-use configuration. The purpose of POMCUS is to pre-position the majority of a unit's organizational equipment forward so that in time of crisis unit personnel, with a minimum of equipment, can rapidly deploy by air to meet NATO contingency requirements.

The concept of pre-positioning unit sets began in 1961. POMCUS currently consists of six division sets and has been modernized with M1A1 tanks, M2 and M3 fighting vehicles, and the MLRS. Equipment is allocated to division sets in accordance with the concept that the first units to fight receive the first priority in distribution. Controlled humidity warehouses and other storage facilities are provided through the NATO Infrastructure Program.

The POMCUS program is vital to the Army's ability to project critically needed forces rapidly in response to a European crisis. Though expensive to equip and maintain, POMCUS saves resources and time by permitting units stationed in the United States to rapidly reinforce NATO.

Wartime Host Nation Support (WHNS)

In return for the U.S. commitment to provide 10 divisions within 10 days of mobilization, the Federal Republic of Germany (FRG) has pledged approximately 50,000 German Army reservists, organized into 100 units, dedicated to the support of USAREUR, in crisis and war. These reservists provide the critical support required to accommodate U.S. rapid reinforcement and resupply efforts, to include sustainment of U.S. multilateral WHNS lines of communication. U.S. forces cannot be supported adequately without this WHNS and related infrastructure. The support equates to 206 units (35,000 spaces) in U.S. force structure savings.

The Army funds German unit equipment and supplies, and bears annual operations and maintenance costs for the stored materiel (equipment holding units) and facilities in peace and war. Germany funds military personnel costs, prefinances infrastructure ($255 million), and mobilizes much of the required unit equipment from its civil sector at a U.S. cost savings of $578 million. Construction costs are shared equally by the United States and Germany.

Action by FRG is proceeding as planned. All 100 units have been activated. Units average 84 percent in personnel strength. All units will be 100 percent manned by 1991.

Industrial Preparedness

The private and government owned industrial base represents the Nation's industrial capability to produce the ammunition, equipment, and other materiel that would be required by U.S. forces during war. The ability of the industrial base to respond to the wartime production levels required to sustain forces in the field has steadily eroded over the years.

Reduced funding levels have had a particularly acute impact on the readiness of the government owned laidaway ammunition production lines, which have an estimated worth of $8.68 billion. These facilities, meant to be brought on line rapidly in the event of mobilization, have suffered a dramatic degree of deterioration in recent years due to reduced funding for maintenance. In FY89, maintenance was underfunded by 55 percent. At this level, little more than basic security can be provided. These funding trends, if continued, will result in the total loss of the laidaway ammunition base.

The capability of the privately owned industrial base to support mobilization requirements has also declined markedly in recent decades. There has been a steady shift away from heavy industry to service-oriented industries in the U.S. economy. The expanded industrial capabilities of foreign nations has led to increased compe-

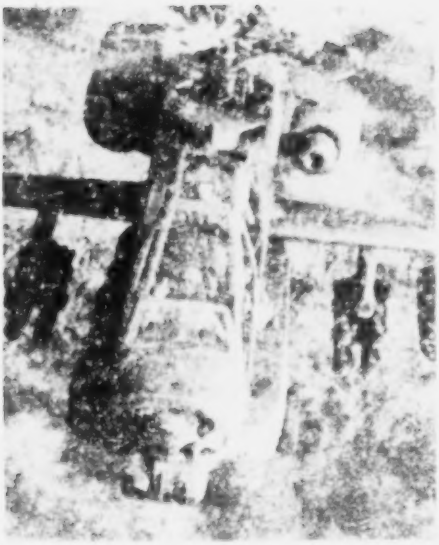
tition with American industry and resulted in a decrease in manufacturing capacity for numerous high-tech components - particularly in the electronics and optical fields. This, in turn, has resulted in increased dependence on foreign sources for many critical components for major American produced weapon systems. These trends, separately and collectively, adversely affect the industrial base's capability to meet the demands of mobilization in the event of a national emergency.

The Army actively supports the maintenance of a strong industrial base. In 1989, the Army began testing an improved production capacity survey that will provide for improved data management of major Army end items. The survey will identify the manufacturing requirements of a major weapon system, to include major components, sub-components, subcontractor contributions to the finished system, and the potential impact of foreign sourced components on the production process. By developing a complete schematic of production requirements, the Army will be better able to identify potential impediments in the production process and assess the impact of foreign sources of critical components on finished products.

The Army supports the initiative of the Defense Manufacturing Board to identify critical technologies essential to the industrial base's capability to produce major weapon systems and their components. The objective of this program is to assure the retention of key defense base technologies within the industrial base and to restore lost capabilities to decrease the potential vulnerability associated with dependence upon foreign sources.

The maintenance of a strong industrial base capable of providing for the war materiel requirements of U. S. forces in peace and war must be a crucial element of national security strategy. The base must not be allowed to erode beyond its present state, and measures to maintain laidaway capacity, reduce foreign dependence, and retain key technologies must be supported by both government and industry.

VII. Modernization



Quality soldiers and modern equipment provide an advantage in combat effectiveness.

Strategy for the Future

Modernization is the continuous process by which the Army develops and fields warfighting capabilities needed to deter war and, if necessary, to fight and win. It is more than just the development and fielding of advanced weapons and equipment. Modernization also includes the associated production, mobilization, and sustainment base and up-to-date doctrine, organizations, training, and leader development programs that, together with advanced weapons, can maximize the U.S. advantages in technology and ingenuity. The Army takes an integrated, disciplined, evolutionary approach to modernization.

The recent and projected reductions to Army procurement accounts have forced the Army to manage tightly its modernization. The Army's assessment of the evolving international environment indicates that threats to the United States in the near term may permit the Army to accept some risk in the modernization of the force over that period. Hence, the Army has developed a modernization strategy focused on the future, where the threat is less certain but potentially more sophisticated than today's. The guiding principles are to protect future modernization (e.g., the next generation of helicopter and tank); to preserve research, development, testing, and evaluation and the technology base; and to terminate unaffordable programs rather than inefficiently stretching them out. The Army is committed to developing and deploying weapon systems for the future. It will modernize only its most essential warfighting capabilities in the short term as it focuses on long-term modernization.

The Army seeks maximum leverage against adversaries' weaknesses by stressing its own strengths, particularly the quality of its soldiers, leaders, and technology. With this in mind, Army strategy focuses on long-range development. The Army's modernization strategy calls for adhering to a set of principles which accord with future warfare requirements, threat capabilities, and fiscal realities. The first principle is to put the most modern equipment in the hands of those who are first to fight.

Second, both lethality and survivability must be considered. It is essential that the Army continue to field weapon systems that have the degree of lethality needed to defeat the enemy while maximizing the survivability of its soldiers and systems.

Third, new or enhanced capabilities must be fielded faster than those of opponents.

Fourth, systems must be designed with their future modernization potential in mind.

Fifth, to ensure affordability, the Army must modernize with priority given to units that are first to fight, regardless of component. As new systems are fielded to forward- and early-deployed forces (first package), the displaced systems from these units are reissued to follow-on units (second package), and so on to later deploying units (last package).

Sixth, the Army must minimize the turbulence in training and readiness that frequently occurs when new equipment is fielded in the force. The goal is to field systems that require minimal new equipment training for soldiers, are reliable, and are simple to operate and maintain in combat.

In adapting force structure and fielding new equipment that is more lethal and survivable than the system it replaces, the Army must design new hardware with enhanced mobility, lower operating costs, and increased effectiveness. The requirement to "lighten the force" when developing future equipment is essential to improve strategic and tactical mobility.

Coordinated Programs

Army modernization plans outline a 20- to 30-year strategy for resource allocation that provides continuity to system or ammunition procurement. The plans are coordinated vertically (throughout the service) and horizontally (across functional areas). They are intended to establish a rate of modernization that is competitive with expected advances by potential adversaries and that addresses known, current shortfalls in the Army's ability to execute worldwide missions. Modernization plans formally state the Army's plan for force development and clearly articulate goals in specific modernization efforts. They produce key planning documents that assist in providing long-term continuity of effort across and within functional areas and that discipline efforts in accordance with the Army's force modernization principles.

Equipment modernization programs must be carefully coordinated for doctrinal considerations, ensuring consistency with the AirLand Battle and AirLand Battle-Future concepts. The key to success is the ability to maintain a balanced set of modernization plans that encompass the general technology base, heavy and light forces, and all aspects of the operational environment (close, deep, and rear). Further, these plans must be flexible enough to maintain integrity while fitting within varying resource constraints. Consequently, most plans encompass a mix of development of new systems, product improvements to existing equipment, and procurement of nondevelopmental items.

Individual modernization programs are coordinated within specific mission areas through the "system of systems" approach. The Army strives to avoid stand-alone modernization plans, preferring programs that are integrated with other elements of the force.

Army Technology Base Master Plan (ATBMP)

The ATBMP is a comprehensive blueprint containing the Technology Base Investment Strategy (TBIS) for meeting future Army requirements in support of CINC warfighting needs. It aims to maintain the technological base while focusing investment on promising emerging technologies. It is designed to advance technology in areas that will increase U.S. capabilities against the projected threat while taking into consideration the fact that resources will be constrained.

The ATBMP provides guidance to the Army technology base community; enhances the leveraging of other service, industry, and academia investment; responds to DOD and congressional interest; focuses technology base investment at critical levels on key technologies; improves technology base stability; and achieves more support for technology base investment through an improved understanding of the Army's investment strategy and plans.

The ATBMP summarizes the future threat and Army doctrine and emerging concepts for meeting that threat. The resulting warfighting imperatives and essential capabilities as well as the method for implementing the TBIS are also outlined.

Army Aviation Modernization Plan (AAMP)

The AAMP is the Army's plan to modernize the Total Army aviation force over the next 30 years. Modernization of the aviation fleet is achieved through managing aircraft age, aircraft capability, organizational structure, doctrine, and training. The AAMP assures sustainment and improvement of aviation assets within an affordable, stable funding level. Economical age constraints are established to determine aircraft useful life. Older aircraft with higher costs are retired as new aircraft with modern technology are introduced, thus obtaining the optimum high/low technology mix.

Key areas addressed in the plan are:

- Initial operating capability of an armed reconnaissance and attack system for light forces (the light helicopter - LHX) by FY97;

- Production of AH-64, CH-47D, OH-58D, UH-60, and aircraft to support SOF;

- Product improvements to fielded systems to protect aviation investments by maintaining required

The Army Aviation Modernization Plan is a 30-year blueprint to keep Army aviation up to date.

warfighting capabilities and effecting appropriate safety modifications;

- Decision points for improvement programs or new aircraft developments; and

- Development of equipment packages integrated within an Army aviation technology base to meet long-term aviation requirements.

Armored Systems Modernization (ASM) Plan

The Army has reviewed its modernization plans in view of the changing world situation to ensure its ability to provide a credible, combat effective conventional land force. As a result, the Army's Heavy Force Modernization program has evolved into a more comprehensive approach to modernization. The need to include other priority combat systems in the modernization efforts necessitated that heavy force modernization evolve to an umbrella modernization plan, the ASM plan.

ASM provides for product improvements to the current fleet of combat vehicles in the near and mid-term and aggressively pursues a near-term solution to the fielding of an armored gun system to contingency forces through non-developmental item acquisition. In the far term, ASM will modernize armored systems to maximize both operational capabilities and interoperability through the procurement of vehicles developed on like or similar chassis.

The Army's heavy tank modernization efforts will focus on developing a replacement for the Abrams tank.

Critical to ASM is the integration of evolving technology into current systems and into the development of future systems. This enables acquisition of state-of-the-art warfighting systems in the shortest time and at reduced costs. This will be accomplished by building on the principles of the former heavy force modernization program, such as commonality, concurrency in development, a streamlined acquisition strategy, and a realistic fielding plan. Obvious benefits of commonality include reduced operation and support, procurement, personnel manning, and training costs.

ASM is constructed on the premise of common components in a more streamlined acquisition process. The Block III Tank, Combat Mobility Vehicle, Advanced Field Artillery System, and Future Infantry Fighting Vehicle are on a heavy protection level chassis, and the Future Armored Resupply Vehicle-Ammunition and Line-of-Sight Anti-Tank are on a medium protection level chassis (i.e., the current Bradley/MLRS chassis). An armored gun system has been added to ASM based on the need for a rapidly deployable system for contingency forces.

The Army needs ASM to ensure both lethality and survivability of its armored systems. ASM will provide evolutionary modernization of armored systems and will preserve the Army's investment in the future by providing essential warfighting capabilities for all types of forces and missions.

Armor-Antiarmor (A3)

Armored vehicles are still at the core of modern land combat, so the force with superior armor has a decided advantage on the battlefield. Unfortunately, the U.S. and NATO technological lead in the armor-antiarmor area has been seriously undermined by the introduction of reactive armor and new tanks by the Soviets. The A3 Modernization Plan seeks to recapture the U.S. qualitative advantage in this area. Success in this endeavor is essential to maintain the effectiveness of Army forces against a numerically superior threat.

The Armor-Antiarmor Plan will modernize antiarmor systems like this TOW missile being fired from a Bradley fighting vehicle.

The A3 Plan provides a blueprint for the modernization of the Army's armor and antiarmor systems. It links the modernization effort to tactics and doctrine and spells out requirements for specific system improvements, such as better protection for the main battle tank and increased lethality of kinetic and chemical energy projectiles. The plan places armor and antiarmor systems in three categories: tank, direct fire anti-tank; and, indirect fire antiarmor systems. In an effort to speed the introduction of improvements, the Army has shortened the development and fielding cycles for major armor and antiarmor systems.

A major program resulting from the A3 effort is the Army's Armored Systems Modernization Plan discussed above. This plan provides for the modernization of priority combat systems in the heavy force into the next century.

Army Intelligence and Electronic Warfare (IEW) Modernization Plan

The Army IEW Modernization Plan provides a single, coherent, force modernization strategy for the development, acquisition, and fielding of intelligence, electronic warfare (EW), and reconnaissance, surveillance, and target acquisition systems (IEW/RSTA). The plan fully supports AirLand Battle doctrine by meeting the commander's intelligence requirements in an accurate, timely, and efficient manner in both NATO and contingency areas. Execution of deep operations requires an IEW approach that supports effective deep targeting. The ability to slow the tempo of enemy operations and affect his decision process hinges on the Army's ability to degrade and destroy the enemy's high-value targets at the time and place of its choosing. The plan supports close operations by providing enhanced signals intelligence and EW support to locate, identify, exploit, disrupt, degrade, or destroy opposing command and control with direct (EW and fires) and indirect (operations security and deception) measures. Without the ability to detect high-value targets, the most sophisticated weapon systems are ineffective. IEW also supports counter-RSTA operations.

Fire Support Modernization Plan

The Fire Support Modernization Plan is the Army's program for modernizing fire support systems, doctrine, training, and force structure. To provide essential fire support for enhanced execution of AirLand Battle and AirLand Battle-Future concepts and to counter the increasing fire support capability of Soviet forces and forces that may be encountered in contingency operations, the plan establishes a fiscally constrained, near- and long-term program for improvements in target acquisition, command and control, weapons, munitions, and sustainment. The objective is an enhanced warfighting capability for close support, counterfire, and deep fires.

Soviet and Warsaw Pact doctrine calls for the massive use of fire support from field artillery cannon, rocket, and missiles, augmented by the fires of attack helicopter and tactical aircraft. In a main attack by Pact first echelon forces, fire support, predominantly field artillery, comprises 75 to 80 percent of the combat power which would be used to achieve the breakthrough that would be exploited by tank forces.

To counter this threat, the Army must develop and field modern fire support and related systems and fund research and development of technology solutions for the future. The modernization plan upgrades the force with priority to units that would be first to fight, fields systems more quickly than the Soviet Union, phases out manpower inefficient systems, and facilitates future modernization in support of both heavy and light forces.

Air Defense Modernization Plan

The Air Defense Modernization Plan is a disciplined approach to providing air defense support to Army forces. It fields the Forward Area Air Defense System (FAADS) to early fighting divisions to protect heavy forces and gives light forces a substantially improved capability to deploy with increased firepower. It supports AirLand Battle in both mature and contingency theaters with corps air defense and a deep fire capability. The plan provides an increased anti-tactical missile capability in Europe and acknowledges the increased missile threat to contingency forces. Technology is focused throughout the plan to provide block improvements to weapon systems; improved identification capabilities; and command, control, and intelligence integrated with joint forces and allies across the battlefield. As in other modernization plans, equipment is distributed by force package to the units that are the first to fight, and older equipment is displaced to lower priority units or retired as it becomes obsolete.

The Air Defense Anti-Tank System shown here will be fielded to defeat the air threat to maneuver forces.

Tactical Wheeled Vehicle Modernization Plan (TWVMP)

The TWVMP, adopted in April 1989, provides for continuous modernization of the Army's TWVs.

The Tactical Wheeled Vehicle Modernization Plan calls for a single vehicle, like the HMMWV shown here, for the light fleet.

This plan focuses Army TWV modernization in accordance with developments in the threat, projected operating environments, advances in technologies, refinements in force structure, and changed fiscal guidance. The objectives of the plan are:

- Reduction of the number of vehicle types by recommending a single vehicle in the light fleet - a High Mobility Multipurpose Wheeled Vehicle (HMMWV) type - and two families of vehicles: the Family of Medium Tactical Vehicles and the Family of Heavy Tactical Vehicles.

Establishment of key criteria for TWV useful life, procurement objectives, service life extension programs, and acquirement. These criteria support decisions for vehicle improvement and replacement and assure needed warfighting capabilities now and in the future; and

- Incorporation of emerging technologies into vehicle design and production to enhance current and future tactical mobility.

Army Command and Control Modernization Plan (C2 Mod Plan)

The C2 Mod Plan describes how the Army's command and control doctrine, training, hardware, and software will be modernized. The plan covers the tactical unit through Army-level interface at joint and strategic levels. Realistically constrained in both funding and force structure, the C2 Mod Plan gives guidance to users on the Army's modernization approach, systems, and fielding. Now in coordination, the initial C2 Mod Plan will be approved for implementation in FY90.

Army Integrated Ammunition Modernization Plan

Without adequate munitions, the Army will not be able to effectively train at the level required to maintain readiness. The Army Integrated Ammunition Modernization Plan, approved in January 1990, provides coordinated conventional ammunition requirements and procurement objectives across the Army for all major combat systems. In FY91, the Army will be able to fully support training requirements and will make progress toward meeting the Defense Planning Guidance procurement objectives.

The Army Integrated Ammunition Modernization Plan seeks to ensure adequate ammunition for training to maintain combat readiness.

Light Forces Modernization Plan (LFMP)

The LFMP is the Army's plan for modernization of its strategically flexible light forces. It crosses all other modernization plans and mission areas in its analysis of light forces. LFMP reviews the requirements placed on light forces. It will be a phased effort. Phase I assesses and fixes the force design and materiel of the existing force structure for the light infantry, airborne, and air assault divisions in FY90-97. Phase II will assess the force structure, design, and materiel in all light forces from FY98 to FY2006.

Material-Handling Equipment Modernization Plan (MHEMP)

The MHEMP will guide the management of material-handling equipment, fleet age, organizational design and structure, doctrine, and training to support the transition from current to future Army MHE. The plan will outline sustainment and improvement of MHE assets for the fleet through the year 2020. The plan, which is in early development, will cover forklifts and cranes in the Army's inventory.

Funding levels - both current and projected - are being developed at this time. Completion of MHEMP is projected for the 3rd Quarter FY90. MHEMP is a vital element in meeting required conventional material-handling capabilities on present and future battlefields.

Soldier Support Modernization Plan (SMP)

The SMP will provide a realistic assessment of what can be fielded and placed in the hands of the Army's soldiers to ensure their optimum combat effectiveness, survivability, and sustainability. The individual soldier is considered a warfighting system like other systems, such as missiles or tanks. There are a multitude of different items under development pertaining to the individual soldier. SMP will pull together all items that the individual soldier in the field must wear, carry, or consume, including clothing and individual equipment, operational rations, individual weapons, and communications equipment. SMP will provide a comprehensive overview of the capabilities and needs of the individual soldier into the 21st century. The plan will be completed in FY90.

Close Air Support (CAS)

The Army's AirLand Battle doctrine specifically recognizes the importance of air activities, in particular close air support, to the success of the land campaign. The Army has worked closely with the Air Force to integrate CAS into the battle and the Army supports the Air Force's goal of maintaining an effective force for CAS. While current ground-attack designated aircraft, the A-10 and the aging A-7, remain viable in lower intensity threat environments, they have limited effectiveness and survivability in mid to high intensity conflict. Current aircraft also have very limited night and adverse weather capabilities that are required to support AirLand Battle doctrine. The Air Force intends to modernize its CAS fleet with the multi-role A-16 that can perform both CAS and battlefield air interdiction. In the near term, existing A-10 and F-16 aircraft will be equipped with improved target acquisition and avionics capabilities for better CAS performance. The greatly increased attack capability of the A-16, coupled with highly lethal Army attack helicopters, will provide the ground commander unmatched capability to influence both the close and deep battles.

Reserve Components Modernization

The USAR and ARNG play pivotal roles in Army warfighting plans and capabilities. The Army's modernization strategy encompasses all components by modernizing forward-deployed and early-deployed units with new systems and providing later deploying units with the displaced systems. This strategy ensures that RC improvements parallel and complement those in corresponding AC forces.

Major USAR Initiatives

Force modernization continues to align units to the Army of Excellence (AOE) design. A significant number of USAR units will modernize to the AOE organization in the early 1990s.

Significant modernization efforts in the USAR include aviation units. Currently, the USAR has two assault battalions equipped with UH-60 Black Hawk helicopters. The USAR also has three attack battalions equipped with AH-1s, with two of these battalions modernizing with AH-64s and associated UH-60s in FY93-95.

Rear Area Operations Centers (RAOC) were activated in USAREUR during FY89, with additional RAOC's and Rear Tactical Operations Centers scheduled for activation in USAREUR, Korea, and CONUS through FY92. These units plan, coordinate, and direct rear activities for U.S. units in conjunction with host nations.

The USAR contains over 50 percent of the Army's medical support. USAR medical units are fielding minimum essential equipment for training (MEET) sets of Deployable Medical Systems equipment. By FY91, 43 MEET sets and 1 Regional Training Site will be in the USAR. Medical units will begin converting to the Medical Force 2000 configuration in late FY91.

The M1 tank was distributed to the 100th Training Division during FY90. Additional M1 distribution to USAR units will continue into FY93.

Other USAR force modernization efforts include the distribution of newer and improved versions of Army equipment, such as wheeled and tracked vehicles.

The revitalization of USAR facilities is an increasingly critical necessity. USAR centers are operating at 263 percent of capacity. The backlog of construction requirements to enlarge crowded facilities and replace dilapidated ones exceeds $2.3 billion.

Major ARNG Initiatives

Equipment availability and redistribution throughout the ARNG is of extreme importance in the continuing effort to increase ARNG equipment on hand (EOH) readiness. The Equipment Readiness Analysis program, developed by the ARNG, is continuing to pay significant rewards in improving overall Army readiness. Since its inception in 1985, over 525 ARNG units have increased EOH readiness.

The program to eliminate old M48A5 and M60/M60A1 tanks continues so that all ARNG armor units will be equipped with the M1 Abrams or M60A3 thermal sight tanks by the end of FY91. The Abrams, which has been going to roundout units, will be provided to four additional battalions in non-roundout units in FY90.

The Army Aviation Modernization Plan will upgrade or replace aging ARNG aircraft, such as the

The AH-64 Apache gives Reserve Component units significant combat power

CH-54 and the UH-1M. The plan calls for 12 ARNG AH-64 Apache advanced attack helicopter battalions and for early fielding of the LHX by the ARNG.

The program to upgrade the 2 1/2- and 5-ton gasoline powered trucks in the ARNG inventory will be completed in FY90, easing the maintenance and support requirements for these vehicles. The trucks are being repowered with multifuel engines, a process which started in FY88. The Tactical Wheeled Vehicle Modernization Plan will address future ARNG medium wheeled vehicle requirements as part of the overall Army program.

Dedicated Procurement Program (DPP)

The DPP provides for the purchase of specific items of equipment needed to reduce RC equipment shortages. The scope of equipment procured is diverse, including combat vehicles, tanks, support vehicles, tools, test equipment and facilities, radios, howitzers, aircraft, trailers, fuel handling equipment, and air defense systems.

More than 37,000 pieces of equipment have been purchased through the DPP for USAR units since 1981. These deliveries of new equipment have raised the EOH readiness of over 250 USAR units. The procurement of personnel carriers has allowed approximately 30 ARNG battalions to attain deployable status and to conduct larger unit training exercises. Radios recently delivered caused the fully mission capable rate for the ARNG to increase by 2 percent. Delivery of 5-ton trucks will provide the only significant relief to the desperately short cargo truck posture. Improved tube-launched, optically tracked, wire command-linked guided anti-tank missile (TOW) vehicles and fire support team vehicles for ARNG and USAR units are being procured with DPP to give increased tank-killing and fire-direction capabilities to RC combat units.

Purchases of support and maintenance items from DPP are assisting readiness improvements in combat service support (CSS) units that are seriously short of items to sustain the combat forces. The RC provide the majority of CSS units in the Total Army. Many of these units have unique equipment requirements needed to accomplish their wartime mission. For example, equipment to be distributed through the DPP in FY90 and FY91 include forklifts, tugboats, locomotives, and well drilling equipment.

Testing, Evaluation, and Instrumentation

Realistic and continuous testing and evaluation of the Army's equipment and associated personnel and organizations remains the single best means to ensure and verify a high rate of return on research, development, and other investment dollars. Up-to-date and robust instrumentation is central to the ability to test and evaluate the new technologies being fielded and the capability to determine performance levels and operational suitability. Preservation and upgrade of the Army's test assets and instrumentation base is a high priority. As such, last year, in recognition of the potential adverse impact of inadequately funded instrumentation investment base accounts, more than $100 million was added over the 5-year program. This will be dedicated to acquiring the most urgently needed instrumentation, threat simulators, and targets for accomplishing required testing at lower cost in personnel and funds.

Also last year, the Army established the Test and Evaluation Management Agency (TEMA) to centralize and focus management of test and evaluation resources and policy matters at HQDA level. TEMA, as part of its broad and multi-faceted charter, works closely with the test and evaluation community, DOD, and other Army staff agencies to ensure requirements, resources, and schedules are fully integrated and responsive to Army materiel fielding plans.

In the years ahead, significant challenges - and opportunities - await the Army test and evaluation community. It will have to continue to seek more realistic, "battlefield environment" testing. It will have to adjust to an increasingly active DOD role in test oversight and centralized resourcing of selected multi-service projects, and it will have to cooperate and share test resources to the maximum extent with the other services. The Army stands ready to meet these challenges and to capitalize on the opportunities. Army test and evaluation activities are designed to accomplish the ultimate goal of providing the soldier the best equipment possible.

Chemical Demilitarization

The Army has accomplished several major milestones in the chemical demilitarization program necessary to meet the statutory completion deadline of 1997. In late FY89, the Army awarded a contract to construct the first CONUS chemical disposal facility at Tooele Army Depot, Utah. Forty-two percent of the Nation's chemical stockpile will be destroyed at this plant. One more facil-

ity is scheduled for construction in FY91 at Anniston Army Depot, Alabama.

Full-scale disposal operations are scheduled to begin at the Johnston Atoll Chemical Agent Disposal System in mid-1991 upon successful completion of a 16-month operational verification test. The National Academy of Sciences, in its oversight role, will evaluate the results of this test.

In keeping with the Army's primary objective for the chemical demilitarization program - safety - a central training facility is being constructed in Aberdeen, Maryland. The Central Demilitarization Training Facility will provide all plant workers with initial and refresher training in all aspects of destruction.

The Army will continue its emergency response program in FY91. Emergency preparedness and response equipment and training will be provided to each of the eight CONUS chemical storage installations and communities surrounding those sites to ensure rapid and effective responses in the unlikely event of a chemical accident. The Army and the Federal Emergency Management Agency share responsibility for this effort.

The Army in Space

The Soviet Union has deployed a sophisticated constellation of satellites capable of monitoring and targeting deployed U.S. ground, naval, and air forces. These systems have been integrated into Soviet ground force doctrine and operations, posing a serious threat to U.S. forces and making space a key element of the modern battlefield. The Soviets have deployed anti-satellite systems (ASAT) capable of destroying U.S. near-earth orbit satellites, while the United States has no commensurate retaliatory option. The Army, in conjunction with DOD, the Strategic Defense Initiative Organization, and the other services, has initiated an aggressive program to eliminate this significant imbalance by developing space systems capable of protecting and supporting U.S. forces. An ASAT joint program office was formed in March 1989 to develop options (land or sea) for basing an ASAT system. In December 1989, the Defense Acquisition Board selected a land-based concept with the Army as the lead service. The concept calls for a land-based direct ascent missile with satellite location information being provided from the existing Space Surveillance Network. Full-scale flight tests are not expected earlier than 1994.

Space now plays a major role in deterrence and the conduct of joint combat operations. The U.S. Commander-in-Chief, Space Command is charged by the JCS with responsibility for DOD space support to the warfighting CINCs. The U.S. Army Space Command, as a component command, supports the U.S. Space Command by providing operational forces for the ground portion of designated space systems, such as the Defense Satellite Communications System. The TRADOC Army Space Institute, as the combat developer, identifies doctrine, training, organization, and materiel requirements for Army space support operations. U.S. Army Strategic Defense Command (USASDC) provides oversight for the Kinetic Energy Anti-Satellite Joint Program Office, and, as a materiel developer, conducts major research and development efforts.

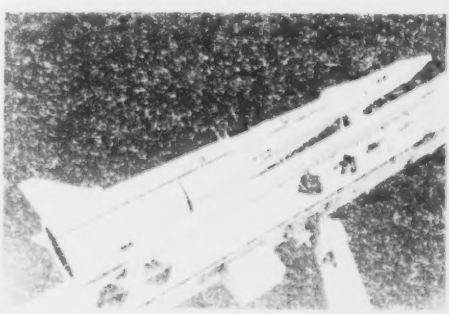
The Army pioneered U.S. exploration in space and is continuing this tradition by pursuing space systems essential for the continued defense of the Nation.

The Army Role in the Strategic Defense Initiative (SDI)

The Army continues to be a key participant in the SDI research and development program. USASDC is responsible for developing a major portion of the technology candidates for the current Strategic Defense System (SDS) Phase I SDI architecture. These Phase I components include ground-based sensors, an exoatmospheric kinetic energy interceptor, and a battle management/command, control, and communications system for managing simulated ballistic missiles.

Follow-on work to the SDS Phase I includes Army efforts to develop a neutral particle beam weapon, a ground-based free electron laser, and the High-Endoatmospheric Defense Interceptor (HEDI). On January 26, 1990, the first HEDI flight test was conducted at White Sands Missile Range, New Mexico.

SDI and associated research are benefiting the Army through a number of "spin-off" technologies. These include a fiber-optic gyro inertial measurement unit (IMU) and the militarized computer module (MCM). The IMU provides a compact, light, and inexpensive precise-position/navigation system. The shoe-box sized, portable MCM has the power of six VAX 11/780 computers. The "spin-offs" represent one of the important dividends to the Army from USASDC's research and development efforts.



The High-Endoatmospheric Defense Interceptor has been tested as part of the Army's contribution to the SDI program.

VIII. Leaders

The Army must develop leaders for today and tomorrow.

Leader Development

To fulfill its roles in support of the Nation's military strategy, the Army must develop tactically and technically competent leaders who have confidence in themselves and the confidence of their subordinates. The Army accomplishes this through a leader development process which consists of progressive and sequential education, training, experience, assessment, feedback, and remediation. This process is doctrinally based and is executed through institutional training, operational assignments, and self-development.

The Army's formal school system plays a key role in the development of the Army's leaders, both military (active and reserve) and civilian. Army schools provide progressive and sequential education and training to develop job related technical and tactical proficiency as well as basic leadership skills. Formal leadership assessment programs for developmental purposes are also embedded in most Army institutional training to further assist in the development of competent, confident leaders.

Operational assignments are essential to the development of Army leaders. Within career assignments, the knowledge gained from institutional education and training is put into practice. Moreover, performance assessment, feedback, and leader training provided at the unit level further supplement and reinforce the Army's institutional training efforts.

Institutional training and operational assignments alone cannot ensure that leaders attain and sustain the degree of technical and tactical competency necessary to perform their warfighting mission. All leaders share responsibility for maintaining and increasing their own knowledge and leadership skills throughout their careers. Thus, the leader's continuous independent study, research, and self-assessment solidify the Army leader development process.

Noncommissioned Officers (NCO)

The NCO corps is the backbone of the Army and provides the first line of leadership for the Army's soldiers. Revisions in NCO courses are under way to ensure they produce battle competent NCOs who are technically, tactically, and leader qualified as squad and section leaders or platoon sergeants. NCOs must be able to teach leadership and warfighting skills to their squad and platoon members, evaluate training, and counsel subordinates. Training programs must provide the "how to" skills necessary for NCOs to participate in individual and collective MOS training. The NCO education system (NCOES) consists of the following courses:

- The Primary Leadership Development Course (PLDC) provides prospective NCOs with the skills required to teach and lead at the individual and fire-team level. PLDC is non-MOS specific, with combat arms, combat support, and combat service support soldiers attending the course together. Students apply their newly acquired leadership skills in a simulated combat environment during a 4-day field exercise where students rotate through leadership positions.

The Primary Leadership Development Course develops tactically proficient small-unit leaders.

- The Basic Noncommissioned Officer Course (BNCOC) provides leadership and MOS skills training for squad and section leaders (sergeants and staff sergeants). BNCOC has been modified to increase the amount of training conducted in a hands-on, performance-

oriented environment and to incorporate master fitness training techniques, marksmanship "train the trainer" instruction, and shared training, where BNCOC students are placed in leadership positions over initial entry soldiers undergoing MOS training.

- The Advanced Noncommissioned Officers Course (ANCOC) provides platoon sergeants with training for their leadership roles. Instruction is consistent with training given to lieutenants in their respective basic courses. Recent ANCOC enhancements parallel ongoing BNCOC initiatives.

- Functional courses are designed to augment formal NCOES courses by providing training that supports the requirements of specific duties. In addition to such courses as the Operations and Intelligence Course, the Personnel and Logistics Course, and the First Sergeant Course, a new course for command sergeant major designees has been developed.

- The Sergeants Major Course is the capstone NCOES course. It prepares master sergeants for leadership positions from battalion through HQDA level. The course is being revised to emphasize both written and oral communications skills.

Officer Education System

During normal career progression, commissioned officers will be required to attend military schools and courses of instruction, and to complete required correspondence studies. The Army minimum civilian education goal for commissioned officers is an undergraduate degree. Additionally, officers are encouraged to earn a graduate degree. Officer schooling normally is sequential, with successful completion at one level of schooling being a prerequisite for attendance at the next higher level:

- The Military Qualification Standard (MQS) Program standardizes AC and RC precommissioning and company-grade officer development by establishing common tasks that junior officers must know to accomplish their missions. MQS integrates training and education efforts of the officer, the unit commander, and the Army school system.

The Military Qualification Standard Program establishes tasks for company level officers.

- Officer Advanced Courses prepare captains to lead, train, maintain, and fight their units. Common core and branch specific instruction is included in the 20-week courses. Specialty training modules are available to prepare officers for their next assignments. The modules are 2 to 6 weeks in length and cover details in such functional areas as personnel and logistics.

- Combined Arms and Services Staff School (CAS3) is a demanding 9-week course that trains captains to function as staff officers with the Army in the field. It emphasizes problem analysis, solution development, and staff coordination through an intensive, concentrated course of study. Captains attend on a temporary-duty basis during their 6th to 9th year of service. Projected annual enrollment is over 4,100 students.

- The Command and General Staff Officer Course (CGSOC) is the Army's senior tactical school. CGSOC provides the skills and knowledge required for service as general staff officers and field grade commanders. Training focuses on the operational art of war and combined and joint operations. Responding to documented requirements to increase the annual number of officers attending this training, the Army has increased enrollment in the resident course to 1,280 students. Over 17,000 other officers participate annually in the correspondence program.

- The Advanced Military Studies Program (AMSP) allows 48 selected CGSOC officers to immerse themselves in analysis of the tactical and operational art of war. The program uses studies of historical and contemporary events as well as participation in command post exercises to develop an in-depth understanding of warfare. After graduation, AMSP students are assigned directly to division or corps staffs. The program provides a nucleus of exceptionally trained and skilled operational planners for the Army.

- The Army War College (AWC) prepares officers for senior leadership positions in the Army and related DOD agencies. The course focuses on the development and employment of ground forces. Course content is centered on analyzing the development of national security policy, the formulation of national and theater military strategy, the conduct of combined and joint campaigns, and the mobilization, deployment, and operational employment of combat forces. AWC students are enrolled in one of three programs: (1) approximately 250 students attend the residence course; (2) nearly 100 students receive fellowships with major universities or intragovernmental agencies; (3) another 350 are selected for the 2-year corresponding studies course. Recent initiatives to upgrade the college include increasing the number of faculty, providing additional faculty enhancement

The Advanced Military Studies Program uses a variety of instructional methods to teach the operational level of war.

programs, and scheduling the construction of a strategic wargaming complex.

- The Joint Professional Military Education (JPME) program will begin in FY90. It represents a major step in the Army's efforts to ensure that officers understand the requirements of joint operations - a requisite for success on the modern battlefield. The JPME program includes two phases of joint instruction. Phase I includes completing either an intermediate or senior level school, such as CGSOC or AWC. Beginning in FY90, graduates of the Phase I education become eligible for Phase II schooling. The Phase II instruction will be taught at the restructured Armed Forces Staff College at Norfolk, Virginia. Students will attend one of two courses, currently scheduled for 9 weeks (intermediate level) and 5 weeks (senior level). In FY91, the course length of both courses in Phase II will be increased to 3 months. Initially, some 250 Army officers will be selected annually to attend the courses.

Reserve Components (RC) Leader Training

The RC Noncommissioned Officer Education System (RC-NCOES) provides leader and MOS training. RC-NCOES courses focus on enhancing the skills, knowledge, and attitudes of NCOs at each grade level. RC-NCOES consists of the PLDC for sergeants and selected specialists and corporals, the BNCOC for staff sergeants, and the ANCOC for sergeants first class. Master sergeants and first sergeants are eligible to attend the U.S. Army Sergeants Major Course. Functional courses available to the RC are the First Sergeants Course and the newly developed Senior Sergeants Battle Staff Course.

The RC Officer Education System (RC-OES) provides training in leadership as well as tactical and technical competency. RC officers attend the resident, full-time officer basic course that focuses on basic branch competency training - preparing lieutenants for company level positions. The RC officer advanced course (RC-OAC) is a four-phased program that provides captains with branch-oriented tactical and leadership training. Most RC officers take the non-resident CGSOC. CAS3 is available to some RC officers in a three-phased pilot program to extend this valuable instruction throughout the Army. Recently approved changes to RC-OES will be implemented in a phased, orderly, and equitable manner, in consonance with resourcing requirements. RC-OES is being revamped to make the system more effective and responsive to the RC officers' needs. The new RC-OES will feature a shortened RC-OAC, the addition of an abbreviated version of CAS3, and a restructured CGSOC.

Civilian Training and Development

The Army recognizes that training its civilian workers is as important to readiness as training its soldiers. As integral members of the Total Army team, civilians must receive technical, management, and leader training at appropriate points in their careers.

The Army Civilian Training, Education, and Development System (ACTEDS) provides planned, standardized development of civilian workers. ACTEDS assures a consistently high-quality work force by blending progressive and sequential technical, professional, and leader training and assignments for individuals from entry-level to key high-level positions. ACTEDS includes mandatory and recommended training for on-the-job effectiveness and peak performance for civilians, and competitive professional development for individuals with high potential for advancement.

ACTEDS plans have been completed or are nearing completion for 24 career programs covering some 98,000 professional and administrative civilians. Plans are also being established for the training and development of individuals whose career may ultimately lead to multi disciplinary positions, such as program executive officers, project managers, installation managers, and directors of information management.

ACTEDS will be expanded to include the remainder of the civilian work4orce through the Personnel Proponent System discussed in Chapter III.

To support the development of leader skills, the Army has established the Civilian Leadership Training Division at the Center for Army Leadership at Fort Leavenworth, Kansas. The Center provides a complete program of leader training for qualified Army civilians from first-year interns to managers in grades GS/GM 13-15. Through the end of FY89, some 4,000 civilians have attended these courses.

The Army Management Staff College's mission is to educate and train selected Army civilian and military

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leaders to assume more important leadership and managerial responsibilities. Over 350 GS-12 through GS/GM-14 civilians have been trained by the College since it began operation in FY87.

The Army Acquisition Corps concept, discussed in Chapter IX, provides for civilian training that is parallel and complementary with that given military acquisition specialists. Civilians will receive intermediate and senior service college schooling and, if legislation is approved, advanced civil schooling.

The Defense Officer Personnel Management Act (DOPMA)

DOPMA, enacted in 1980, has proven to be an effective officer management tool. However, over the past several years, the Army has had to adapt to changing requirements in force structure, including congressionally mandated reductions. Legislation currently proposed will provide greater flexibility in military officer personnel management during officer force reductions by modifying certain restrictions involving the retirement or discharge of officers. These legislative proposals include authority to expand the criteria for eligibility for selective early retirement, time-in-grade waivers for retirement eligibility, authority to conduct a reduction-in-force, separation pay for officers, and the authority for the service secretaries to curtail the period of continued service of any officer previously selected for continuation on active duty. Force structure reductions necessitate early approval of DOPMA management flexibility. The current statute plus the proposed legislation will ensure readiness by providing the Army the flexibility needed to establish and sustain a properly aligned force.

Warrant Officer Management Act (WOMA)

The Army's warrant officers represent a tremendous personnel resource as a result of their extensive training and experience. The proposed WOMA will allow the Army to more effectively retain and use the expertise of its warrant officers. It establishes the grade of Chief Warrant Officer (W-5) in the active Army and RC and modernizes the statutes that apply to active duty warrant officers, providing management similar to that of DOPMA governing commissioned officers. The new pay grade is a key element in retaining experienced warrant officers but will be limited to 5 percent of warrant officer strength. The WOMA establishes a single active duty list and promotion system, below-the-zone promotion capability, selective continuation and selective early retirement provisions, and mandatory retirement based on years of active warrant officer service rather than active federal service. Enactment of WOMA will provide the Army the flexibility needed to meet manning requirements for warrant officers.

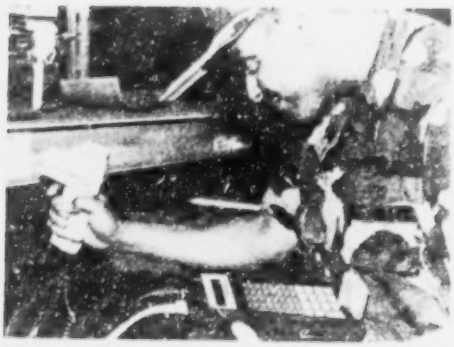
Reserve Officer Personnel Management Act (ROPMA)

A trained and ready officer corps in each component of the Total Army is essential to provide leadership and direction to the Army of the 1990s and beyond. ROPMA, introduced in Congress on May 3, 1989, updates the laws governing appointment, promotion, separation, and retirement of RC officers and provides greater flexibility in the personnel management and professional development of RC officers.

Under ROPMA, RC officers will be integrated on a Reserve Active Status List, considered for promotion under a best qualified system of selection, and selectively retained or removed from active RC status based upon performance and the needs of the Army. The bill provides for establishment of promotion zones, selection for early promotion, maximum years of service by rank, and authority for standby promotion consideration that exist in the statutes for the Regular Army but not for the RC.

The legislative enhancements contained in ROPMA will enable reserve officer personnel management, training, and career development to mirror Regular Army practices and procedures as established in DOPMA. The bill strengthens the authority of the Army to tailor the RC officer force to be more responsive to mobilization requirements, thereby improving combat readiness. The Army strongly endorses and supports enactment of ROPMA. Its passage will result in more effective leadership for the Army and its sister services well into the next century.

IX. Management Efficiency



The Army is pursuing a wide range of management efficiencies, ranging from relatively simple changes, such as the adoption of bar coding seen here, to major initiatives under the Defense Management Review.

Army Management Review

In July 1989, the Secretary of Defense publicly announced the Defense Management Review to implement the recommendations of the Packard Commission. Among the commission's recommendations were the establishment of a Service Acquisition Executive; appointment of Program Executive Officers; short, clear lines of authority to streamline the acquisition process; and other recommendations to improve the acquisition process. The Army responded by making fundamental changes in its organizational management philosophy across the spectrum of its responsibilities. These initiatives have already allowed the Army to enhance its overall management system and to more efficiently manage its total resources, with special emphasis on acquisition and logistics activities.

The Army also established a Management Review Task Force to examine and provide recommendations for decision to the Army leadership in four critical areas: personnel and organizations; defense planning; acquisition practices; and ways to improve the acquisition process. This comprehensive examination resulted in the Army's resolve to further strengthen its acquisition process through three major actions: establishing an Army Acquisition Corps; streamlining acquisition management; and implementing a number of management initiatives.

The Army Acquisition Corps is the Army's program for addressing that portion of the Defense Management Review concerning the development of a dedicated corps of acquisition specialists. The program integrates military and civilian personnel into one acquisition corps, and it establishes specialized training and development requirements for approximately 1,350 acquisition positions. These "critical positions" encompass military and civilian jobs in program executive offices, program management offices, and selected support and staff positions in support commands and headquarters.

For the military, officers will enter the Army Acquisition Corps at their eighth year of service. Fully funded advanced civil schooling will be offered to all military participants for education in scientific, technical, and managerial disciplines. Selection for military schooling will remain unchanged. Officers will be developed through acquisition assignments. Promotion policy and guidance is structured to ensure the potential for advancement from company grade to general officer rank.

For civilians, the corps will draw from existing civilian career programs at grades GS-13 and above. These programs already provide much of the specialized training and experience required for entry into the acquisition corps. As necessary, individuals will be further developed through schooling and assignments. Legislation is recommended to permit paying for advanced civil schooling for civilian personnel, identical to that provided for the military. The program will also provide for promotion opportunity from GS-13 through the Senior Executive Service.

The Army estimates it will save over $10 billion during the period FY91 to FY95 through management initiatives, beginning with approximately $750 million in savings in FY91. Included in the 5-year savings plan are the reduction of 10,245 civilian and 793 military positions and the conversion of 5,000 military slots to civilian positions. The net Army reduction is 6,126 military and 5,171 civilian personnel. The initiatives will allow for more efficient acquisition and logistics management procedures.

One of the initiatives is the consolidation of the activities of the Army Materiel Command (AMC) to achieve greater economy. Some of the major actions in this effort include:

- Reducing Headquarters, AMC;

- Eliminating some functions under the AMC Management Engineering Activity; and

- Reducing Headquarters, Depot Systems Command, by having other activities within AMC absorb some of its functions;

- Consolidating several logistics support activities into a single organization to enhance management flexibility and to reduce administrative support personnel and expenses;

- Further centralizing test, measurement, and diagnostic equipment activities;

- Changes to contract administration services at Army ammunition plants.

Activities of the U.S. Army Information Systems Command will be consolidated, and additional savings will be generated by actions aimed at reducing the logistics and administrative costs of Army activities, such as cutting transportation expenses and paring inventories. DOD has established seven study groups to review further consolidations or realignment of support functions. A number of Army organizations will be affected by these studies, including supply and maintenance depots and research and development laboratories.

The Army has taken a comprehensive, multifaceted approach to the Defense Management Review's directives. The results will be better Army management, drawing together a number of programs and approaches to make profound near-term and long-term systemic changes. Based on these efforts, the Army's total program will yield substantial savings through improved efficiencies and organizations. The Army realizes that embedding excellence is a continuous process. Sustaining that effort will require long-term commitment.

Total Quality Management (TQM)

The Army has embraced the DOD TQM initiative. TQM is an approach to management that affects the way people do their jobs. The TQM approach is to manage the processes which govern the quality of goods and services. By improving these processes, the effectiveness and performance of everyone in the organization is enhanced, resulting in better products and services.

Widespread training is being conducted in many organizations, accompanied by the development of organizational implementation plans. An Army Science Board Ad Hoc Subgroup on TQM is reviewing TQM implementation and will make recommendations on how to increase its effectiveness and efficiency. TQM promises long-term quality and productivity improvements and more effective support to the soldier in the field.

Sustainment Programs

The Army pursues management efficiencies across all of its functional areas of responsibility. Sustainment programs seek to improve the effectiveness and efficiency of the Army's support systems.

Logistics Unit Productivity Systems (LUPS)

LUPS is a unit-oriented effort to raise productivity while decreasing force structure. LUPS examines selected combat service support organizational documents to validate requirements for each position and piece of equipment. The examination identifies labor intensive tasks that can be done by modern equipment. Many units have increased their capability dramatically by converting from manpower-intensive to equipment-intensive units.

Most LUPS units operate at corps and above. They provide area and backup support to divisions. Their ability to provide support is dependent on receiving new and additional equipment to offset reduced force structure. Unit conversions to new organizations occur 2 years after equipment is procured to allow time for equipment delivery. Examples of LUPS equipment include larger, more mobile fork lifts and larger fuel tankers.

Nontactical Vehicles (NTV)

The Army's NTV fleet consists of 80,600 commercial vehicles used to support training, security, intelligence gathering, recruiting, medical activities, facilities maintenance, personal protection, and worldwide installation support missions. The use of NTVs in performing administrative transportation functions is more cost effective than using tactical vehicles that are more expensive to procure and maintain. Due to continual underfunding, over 35 percent of the Army-owned NTV fleet is overage, overmileage, and needs to be replaced. An older fleet increases maintenance costs, commercial leasing requirements, fuel consumption, and the use of tactical vehicles.

In FY86, the Army expanded its conversion of approximately 51,500 NTV in CONUS to more cost-effective General Services Administration (GSA) ownership. By the end of FY89, nearly 32,000 NTV had been converted to GSA ownership. The conversion of the Army's fleet has reduced operation and maintenance costs an average of 3 percent per year. By FY92, the Army will meet 60 percent of its worldwide NTV requirements with GSA vehicles.

The FY90 NTV budget of $15 million and the FY91 budget of $20 million fall short of the $64 million and $48 million needed in FY90 and FY91 respectively to procure overseas vehicle replacements. The Army requires $29.6 million annually from FY92 through FY97 to maintain an average fleet age of 10 years.

Commercial Travel Program

The Army initiated a program for the competitive procurement of official and leisure travel services in FY86. The program objective is effective, economical travel for all members of the Army community. Guaranteed lowest available fares for official and unofficial travel, one stop shopping for all travel services (tickets, hotel, car rental), and the return of concession fees paid on unofficial travel sales to the Army's morale, welfare, and recreation fund are some of the benefits derived from this innovative program. During the first year, rebates on unofficial travel sales returned $1 million to installation morale, welfare, and recreation funds.

When the Army awarded the first contract in FY88 for travel services for the Fifth Army region, valued at $86.5 million, it was the largest travel service contract ever awarded to a single travel agency.

In 1989, the Army approved the charter for a project office for commercial travel services and delegated the mission and function to the Military Traffic Management Command. This project office has been established for the centralized procurement of all travel services, both official and unofficial, and for the centralized management of all contracted travel services worldwide. The next regional contract will be awarded during FY90 and will, for the first time, seek a rebate on both official and leisure travel.

When fully implemented, the commercial travel program will result in worldwide contracted services for all Army activities and ensure the most effective and economical travel for all members of the Army community.

Revitalization of Army Depots for the Year 2000 (READY 2000)

The primary mission of the U.S. Army Depot System Command (DESCOM) is to support the Nation's armed forces. DESCOM is the direct supply link to Army units stationed around the world and is responsible for maintaining and repairing major Army equipment and systems. Changes in technologies and doctrines are making DESCOM's facilities and equipment outdated. The U.S. Army depot system must modernize its obsolete equipment and facilities to effectively support combat forces into the next century. Most of the system is operating with Vietnam-era equipment in World War II-vintage facilities.

To meet technological challenges and to keep current with its customers, DESCOM has initiated a modernization program for its supply and maintenance depots called the READY 2000 program. Many new technologies are now available to help the depot system improve its efficiency and service. These include information processing and advanced computer systems; robotics; expert systems; automated storage and retrieval systems; and automated, flexible manufacturing systems for more efficient overhaul and repair of equipment.

Automation Programs

The Army is currently involved in a major revamping of its automation functions and processes in a number of areas. In logistics, by using an umbrella approach, various retail and wholesale systems are being automated, which will save both time and money as manual processes are replaced and better management tools are provided. The overall concept, known as the Strategic Logistics System, will integrate logistics functions from unit to wholesale level in a comprehensive and responsive logistics automation architecture. Automation programs to increase efficiency and enhance capabilities are also being undertaken in other areas, such as personnel management, procurement, the sustaining base, and RC mobilization and administration.

Transportation

The Army is developing automated transportation systems that will support a broad range of functions, to include transportation planning, movements management, terminal operations, and in-transit cargo visibility.

In the near term (FY90 and FY91), systems will be fielded that will provide rapid deployment capability, improve movement command and control, and interface with transportation operating commands, the military services, and the Joint Deployment System. These transportation systems will provide accurate and timely critical unit deployment data to the Army and the joint deployment community.

The following actions are scheduled for FY90 and FY91:

- Begin development of the Strategic Deployment Transportation Analysis system;

- Achieve milestone approvals for the Strategic Deployment System and the CONUS Freight Management System;

The Army is automating a broad range of activities to improve management of transportation activities.

- Develop and implement a prototype of the Worldwide Port System;

- Field the Department of the Army Movements Management System-Redesign Phase 1 to Europe and Korea;

- Complete fielding of the Transportation Coordinator Automated Command and Control Information System (TC ACCIS) to 48 CONUS mobilization sites;

- Implement plans to integrate the Automated Air Load Planning System into TC ACCIS;

- Demonstrate the concept prototype in-transit cargo visibility system.

Identification Technology

Logistics Applications of Automated Marking and Reading Symbols (LOGMARS) automates data collection and entry by implementing bar code technology in a multitude of Army logistics systems. LOGMARS is a productivity enhancing technology that has been extensively implemented in both the tactical Army and the sustaining base. Funding of the program is more than offset by savings the technology generates.

Microcircuit technology in logistics applications (MITLA) is a generic term for a family of small, rugged, portable memory/logic microcircuit devices which receive, store, and transmit data in automated form. MITLA is complementary to LOGMARS but offers a significant extension of capability. The technology has been successfully piloted in supply, maintenance, and transportation applications. Major efforts are underway to develop a military standard for the technology and to integrate it into the Army logistics system.

Tactical Army Combat Service Support Computer System (TACCS)

The Army is fielding the TACCS to provide automated logistics applications for CSS operations. TACCS is the major automated hardware system used from battalion through echelons above corps to support logistics functions. To date, 9,364 TACCS systems have been fielded to support the AC and RC with the following logistics processes:

- Standard Army Retail Supply System for management of spares and repair parts;

- Standard Army Maintenance System for maintenance management functions;

- Standard Property Book System-Redesign for management of major end items;

- Standard Army Ammunition System for ammunition management; and

- Department of the Army Movements Management System-Redesign for transportation and distribution management.

Long-range plans for TACCS include transition from the current proprietary hardware to Army common hardware and software in the mid-1990s.

Procurement and Acquisition

The Integrated Procurement System (IPS) automates the acquisition process at the AMC and its major subordinate commands, providing automation support to the wholesale procurement process. The current manual procedures will be converted into an electronic processing and contracting system using pre-formatted word processing and electronic mail. IPS is expected to pay for itself through savings generated in its first 5 years of operation. IPS is scheduled for initial fielding in the 1st Quarter FY91 with full operational capability in the 1st Quarter FY93.

The Computer Aided Acquisition and Logistics Support (CALS) system is a DOD-sponsored effort that provides digitized access to technical data for DOD and government contractors worldwide. Concept development of CALS was begun in FY90 with the awarding of a development contract to four defense contractors. As CALS development is refined, the contractors will be reduced in phases until one contractor remains whose system will best optimize and balance risks and advantages. Initial fielding of CALS is scheduled for FY93 and full operational capability in FY98.

Personnel Automation Systems

A critical step in maintaining a capable deterrent force is to get the right person with the right skills in the right job at the right time during peacetime, mobilization, deployment, and war. To improve its ability to do this, the Army is modernizing its personnel automation systems at all levels of command. The Total Army Personnel System Modernization Plan, Personnel Systems Architecture, and system development activities are directed at providing support to approved Army doctrine, plans, and procedures using flexible, affordable, reliable, and simple processes. The Army is pursuing several major initiatives to make personnel systems more efficient and effective.

- The Total Army Personnel Data Base is a decentralized relational database using standardized personnel data to support the personnel management information needs of multiple systems and applications of the AC and RC.

- The Standard Installation Division Personnel System (SIDPERS-3) is the active Army personnel system. It will provide improved personnel service to the soldier in the field into the 21st Century.

- The Army has adopted the Air Force Civilian Personnel System for Army use. The Army Civilian Personnel System (ACPERS), now being fielded, will provide a standardized automated civilian personnel management system to all Army civilian personnel offices. ACPERS replaces three separate automated systems.

Sustaining Base Programs

Sustaining base programs provide automation assistance to the vital day-to-day functions that support tactical, strategic, and joint missions. The Army is committed to ensuring that the sustaining base is upgraded or modified, and standardized where appropriate, to foster more efficient and effective operations. The Army Standard Information Management System (ASIMS) provides an information processing utility which is designed to accommodate the sustaining base information management needs of Army major commands, posts, camps, and stations worldwide. The ASIMS supports many critical functions, including the Army's standard military and civilian pay systems and the financial accounting systems. In an initiative to standardize and facilitate processing of installation-level functions, the Army has implemented the Installation Support Modules (ISM) program. ISM will furnish installations with a common suite of applications for like functions, such as vehicle registration, postal locators, and central issue facilities.

Reserve Component Automation System (RCAS)

RCAS will be a state-of-the-art automated information system that will improve mobilization planning, mobilization execution, and unit administration. The information to feed these functions will come from automating the daily administrative activities of RC units. Key mission needs to be satisfied by RCAS include rapid development and update of mobilization planning documents; improvement of wartime surge capability at mobilization stations; automated personnel management; improved ability to monitor equipment status and execute other logistics functions; enhancements in preparing budgets and controlling fund expenditures; more timely pay; and on-line entry of information into an integrated system. Each ARNG and USAR unit will receive the hardware, software, and telecommunications to transmit information within the appropriate chain of command and to mobilization stations.

The RCAS program is now in the design phase of acquisition. Fielding of the RCAS will begin in FY92.

Base Realignments and Closures

The Army has consistently supported the concept of closing unneeded bases and consolidating operations to generate long-term financial savings and operational efficiencies. The base realignments and closures that will begin in FY90 start the process toward that goal.

On May 3, 1988, the Secretary of Defense chartered an independent commission to examine methods by which DOD could eliminate excess property and reduce

base operations costs. The commission developed a process to evaluate all DOD CONUS bases in a systematic, apolitical manner and then used the process to review the services' basing structure. In support of the commission, the Army formed a task force to supply data and to provide analytic support during the review process. The commission retained all discretion as to which bases it would recommend to the Secretary for realignment or closure. On December 29, 1988, the Commission delivered its report to the Secretary of Defense who, after review by the military departments, accepted the recommendations in total and forwarded the report to Congress.

Over 120 Army installations will be affected by the commission's recommendations. Closures and realignments must be completed by September 30, 1995. As a result of this program, the Army expects to benefit from consolidation of operations, generate savings in the base operations accounts, and reduce its current installation management burden.

Based on its need to reduce the force structure, the Army proposes closing several installations over the next 5 years in addition to those recommended by the Secretary of Defense's Commission on Base Realignment and Closure. During FY90/91 the Army proposes the following major reductions and realignments:

- A reduction of approximately 12,000 soldiers and 450 civilians associated with the inactivation of the 2d Armored Division at Fort Hood, Texas;

- A reduction of approximately 3,000 soldiers and 200 civilians at Fort Knox, Kentucky, in connection with the changes to the 194th Armored Brigade;

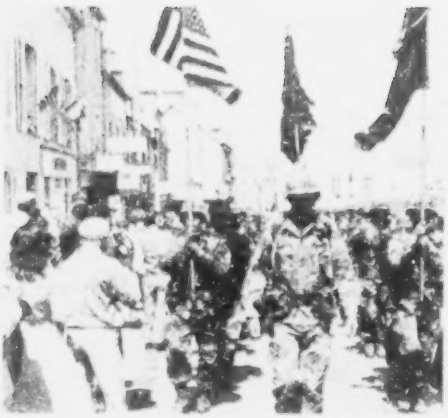
- A reduction of approximately 8,500 soldiers connected with the downsizing the 9th Motorized Division at Fort Lewis, Washington;

- Layaway of the Mississippi Army Ammunition Plant; and

- Inactivation of 1 of the 2 Criminal Investigation Command regions within CONUS, a reduction of approximately 100 soldiers and 90 civilians.

If approved, these proposals, as well as others planned for the period FY92-95, will impact the Army's basing structure. Reductions in force structure require the concurrent downsizing of the Army's installation infrastructure to ensure efficient and cost effective support of the force as it evolves. The Army has begun the preliminary studies and planning necessary to support the execution of these proposals.

X. Resources



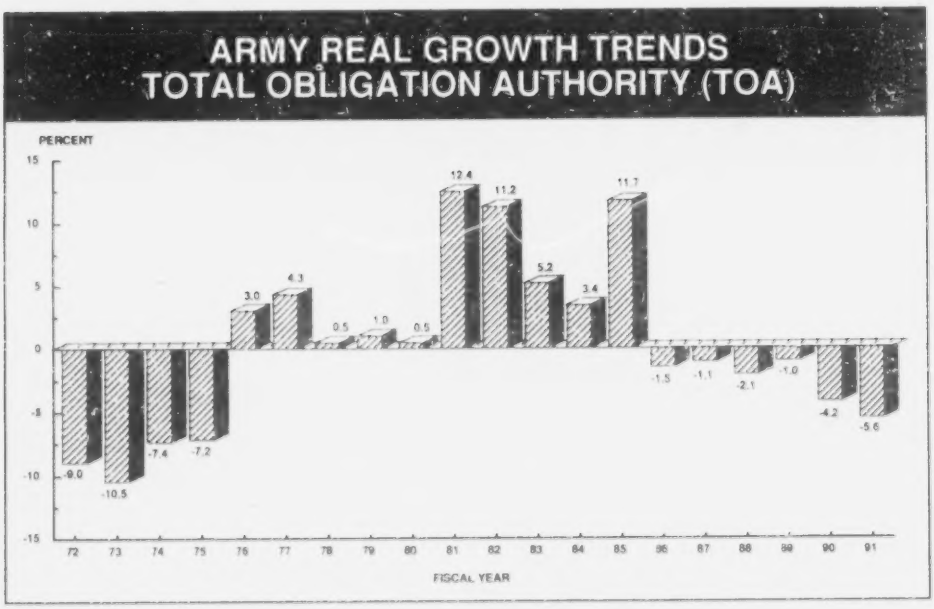
The Army is prepared to fulfill its worldwide role in the future just as it has done in the past: U.S. airborne troops march through Ste. Mere Eglise, Normandy, France, to celebrate the 45th Anniversary of D Day.

Status of the FY90 Budget

The FY90 Department of the Army budget was not finalized until the end of the 1st Quarter FY90. The final budget reconciliation, including 130 days of Gramm-Rudman-Hollings sequestration that reduced the Army's allocation by $552.5 million, provided the Army with $77.7 billion for FY90. This is $1.2 billion below the amount requested in the amended budget submitted to Congress in April 1989.

The major impact of these reductions came in the operation and maintenance program and Active, Reserve Components, and civilian budgeted end strengths. Active end strength will be reduced by 20,000, Reserve Components by 19,500 (USAR-9,500, ARNG-10,000), and civilian by 15,500 in FY90. By cutting back on accessions and reducing force structure, the Army expects to be able to avoid the disruptive effects of forced losses such as reductions-in-force (RIF) and involuntary "early outs." The Army's AC end strength by the end of FY90 will be 744,169. This will be the smallest Army since before the Korean War. The reduction to the civilian work force will be accomplished mainly through normal attrition.

The FY90 budget marked the fifth consecutive year of negative real growth in the Army budget.

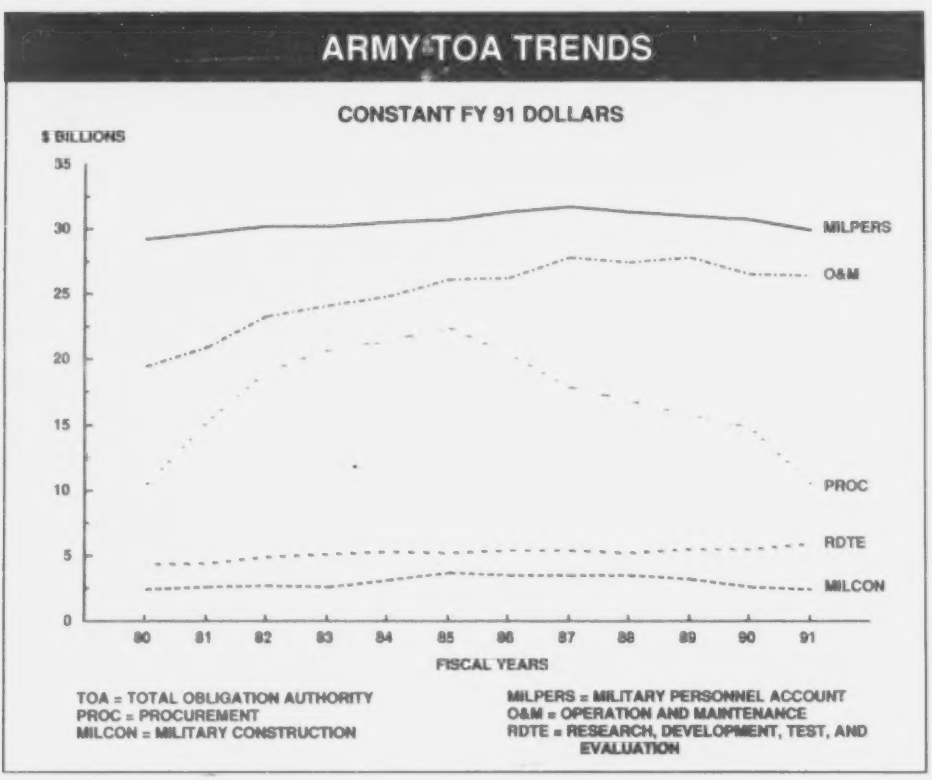


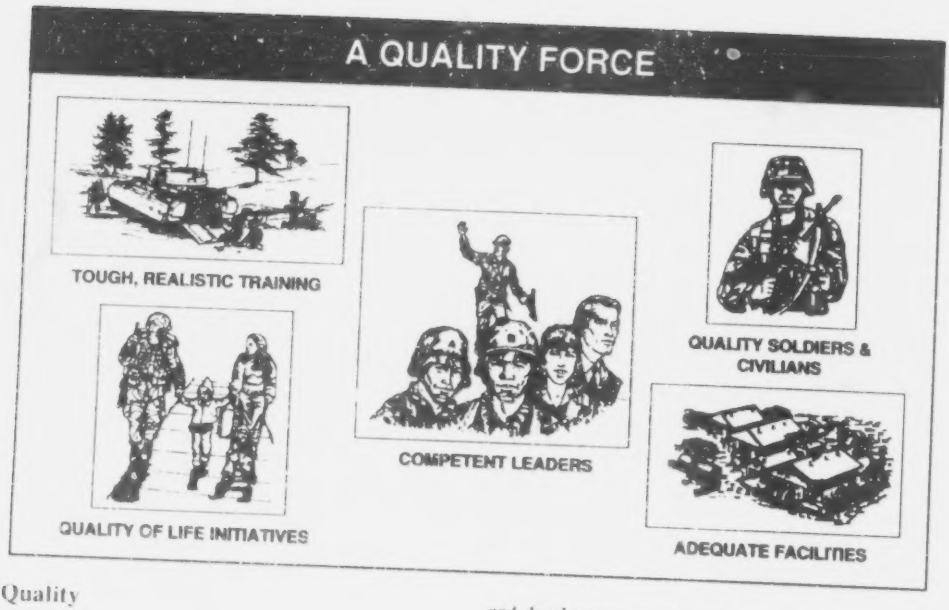
FY91 Budget Overview

The FY91 budget requests $76.1 billion in total obligation authority (TOA), which is a $6.1 billion decrease from the April 1989 FY91 Amended Budget Submission. This is a negative 5.6 percent change in TOA real growth from FY90, continuing the decline for a sixth year. The FY91 Budget represents the first step in the planned transition to the versatile, deployable, and lethal Army of 1995. It should be viewed in this light. The preparation of this budget and the decisions on the FY90 sequestration adjustments were guided by the threat, the vision of the future, and the six imperatives. It is the culmination of extremely difficult decisions taken by the Army leadership to deal with, first, a changing threat and, then, with the challenge facing today's Army - to reshape the force in a climate of declining resources while maintaining a full range of capabilities in support of the national military strategy. The FY91 budget is the cornerstone of the Army's efforts both to provide the Nation with the force it will require in 1995 and to ensure that it is adequately protected during the potentially volatile transition period.

This budget reflects the application of the six imperatives to the difficult process of setting budget priorities. It has been structured to protect the quality of the Total Force and future modernization while ensuring an appropriate mix of adequately equipped and well-trained heavy, light, and special operations forces in the Active and Reserve Components. It also generally continues the trends of the past several years in the major budget accounts - sharp reductions to the procurement account, slight reductions to the operation and maintenance, military personnel, and military construction accounts and slight increases in the research and development accounts.

Of necessity, to fulfill the requirements of the imperatives within existing and projected fiscal constraints, the Army must get smaller. The FY91 budget, as submitted, permits the reduction of the force in a manner consistent with national security requirements and with obligations to take care of its soldiers and civilians as it reshapes a professional, volunteer force.





Quality

The Army has continued to protect the programs that allow it to achieve its top priority - to attract and retain high-quality soldiers and civilians. This challenge requires that the Army offer not only pay, promotions, and working and living conditions comparable to the civilian sector, but a meaningful and challenging training environment that both meets soldiers' expectations and develops tactically and technically competent leaders for the future. To this end, the budget contains a 3.5 percent military and civilian pay raise, maintains the pace of officer and enlisted promotions, and retains essential advertising funding and bonuses for critical MOSs. The Army is increasing funding for child care, morale support activities, and relocation assistance programs to help military families during permanent change of station moves. The FY91 budget also funds a variety of other quality of life programs, to include medical programs for soldiers and their families at levels consistent with current requirements, and increased household goods shipment entitlements for single personnel overseas. It lacks sufficient funding for the increasing repair and renovation requirements of the Army's aging facilities, a generic problem previously discussed.

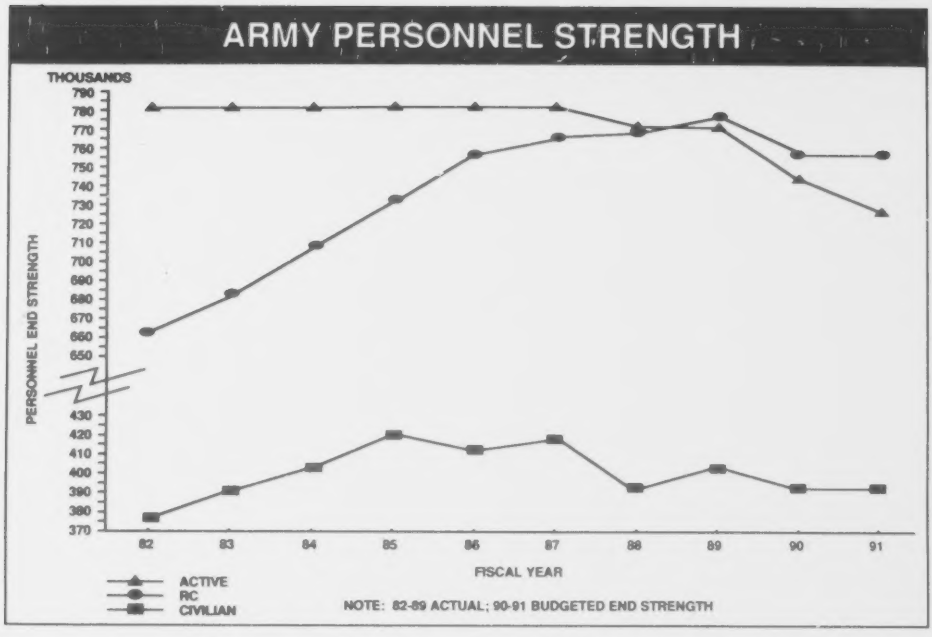
Doctrine

While there are few direct budgetary impacts on the Army's AirLand Battle doctrine, this doctrine provides the basic rationale for designing and structuring forces, determining materiel needs, stimulating future research and development, conducting training, and developing future leaders. As it evolves to reflect future trends in threat and warfighting needs, it also provides the foundation for the Army's disciplined evolution to the future.

Force Structure

Potential conventional arms control reductions and related changes to the heavy threat in Europe, the requirement to address the evolving multiple and diverse threats to U.S. vital interests outside of Europe, and dramatic near-term resource reductions have led the Army to reduce the size of the total force to protect the quality and the readiness of both the transitional force and the Army of 1995. The FY91 budget continues the drawdown trend in active Army end strength. It provides for a fully manned, though smaller, force. It calls for 16,200 fewer AC soldiers and 2,500 fewer civilians. RC end strength will continue at FY90 levels pending completion of the congressionally directed Total Force Policy study in December.

The Army remains committed to executing reductions in a manner that preserves the quality of the residual force; that minimizes the turbulence and personal impacts to its professional, volunteer force; and that maintains the appropriate mix of heavy, light, and special operations forces in the Active and Reserve Components. These initial reductions set the stage for the transition to the Army of 1995.



Training and Leader Development

The FY91 budget also sustains the Army's requirements for maintaining a trained and ready force that can deploy on short notice to confront diverse worldwide threats. It protects air and ground OPTEMPO in both the Active and Reserve Components, enhances the quality of training at the Combat Training Centers (CTCs), funds joint exercises at FY90 levels, and sufficiently funds depot level end-item maintenance to support training. It also supports efficiencies in training through increased use of simulations and training simulators, protects essential military and civilian leader development training, and, through the sustained OPTEMPO and CTC programs, supports the tactical development of the next generation of Army leaders.

Modernization

The modernization strategy is based on accepting some risk over the near- and mid-term to protect future modernization and the technology base, and on modernizing only the most essential warfighting capabilities in the near term. The latter element has led to the decision to terminate unaffordable programs rather than to stretch them out inefficiently. Consequently, the pace of modernization has been slowed and some 15 major programs have been terminated. For example, the FY91 budget completes M1A1 Abrams tank production and terminates production of the M1A2, an enhanced version of the M1A1, on completion of "prove-out" of the production line.

The reductions to the Army's budget requests have not been without cost. The cumulative effects of half a decade of declining resources in the Army budget, coupled with the rising costs of sustaining its infrastructure, are being felt across the Army. Clearly, the Nation will incur some additional risk as the Army loses warfighting capabilities as a result of these continuing contradictory pressures. The acceptance of this increase in risk has been made possible by the reduced threat presented by the Warsaw Pact in Europe and the general scaling back of the Soviet threat worldwide. The level of risk has been minimized by the Army's active and forward-looking efforts to shape the Army of the future and its adherence to the six fundamental imperatives that have guided its development to where it is today - the best peacetime Army in the history of the Nation.

The Army's greatest resource: its people.

Acronyms

A3
armor-antiarmor
AAFES
Army and Air Force Exchange Service
AAMP
Army Aviation Modernization Plan
AATS
Army Aviation Training Sites
AC
Active Component
ACF
Army College Fund
ACOE
Army Communities of Excellence
ACPERS
Army Civilian Personnel System
ACTEDS
Army Civilian Training, Education, and Development System
AFFS
Army Field Feeding System
AFQT
Armed Forces Qualification Test
AIAP
Army International Activities Plan
ALOC
air line of communications
ALRTP
Army Long Range Training Plan
AMC
Army Materiel Command
AMSP
Advanced Military Studies Program
ANCOC
Advanced Noncommissioned Officer Course
AOE
Army of Excellence
ARNG
Army National Guard
ASAT
anti-satellite systems
ASIMS
Army Standard Information Management System
ASL
authorized stockage list
ASM
Armored Systems Modernization Plan
ATBMP
Army Technology Base Master Plan
AWC
Army War College

BBS
Brigade/Battalion Simulation
BCTP
Battle Command Training Program
BMAR
backlog of maintenance and repair
BNCOC
Basic Noncommissioned Officer Course
BOSS
Better Opportunities for Single Soldiers
BUTP
base unit training program

C^2
command and control
CA
civil affairs
CALS
Computer Aided Acquisition and Logistics Support
CAS
close air support
CAS3
Combined Arms and Services Staff School
CFE
Conventional Armed Forces in Europe
CGSOC
Command and General Staff Officer Course
CHAMPUS
Civilian Health and Medical Program of the Uniformed Services
CINC
Commander-in-Chief
CMO
civil-military operations
CMTC
Combat Maneuver Training Center
CONUS
Continental United States
CSS/TSS
Combat Service Support/Training Support System
CTC
combat training centers
CW
chemical weapons

DBIT
Deep Battle Integration Trainer
DESCOM
Depot System Command
DLR
depot level repairable
DOD
Department of Defense
DOPMA
Defense Officer Personnel Management Act

DPP
Dedicated Procurement Program

EAD
echelons above division
EOH
equipment on hand

FAADS
Forward Area Air Defense System
FAMSIM
Family of Simulations
FAO
foreign area officer
FAPI
Force Alignment Plan I
FP
force protection
FRG
Federal Republic of Germany
FTS
full-time support program
FWS
Flight Weapons Simulator

GSA
General Services Administration
GS/GM
General Schedule/General Merit

HEDI
High-Endoatmospheric Defense Interceptor
HIV
Human Immuno-deficiency Virus
HMMWV
High Mobility Multipurpose Wheeled Vehicle
HOIS
Hostile Intelligence Services
HQDA
Headquarters, Department of the Army
HTTC
High Technology Training Center

IEW
intelligence and electronic warfare
IMU
inertial measurement unit
INF
Intermediate-Range Nuclear Forces
IPS
Integrated Procurement System
IRR
Individual Ready Reserve
ISM
Installation Support Modules
ITRS
Integrated Training Resource Strategy

JCS
Joint Chiefs of Staff
JPME
Joint Professional Military Education
JRTC
Joint Readiness Training Center

LFMP
Light Forces Modernization Plan
LHX
light helicopter experimental
LIC
low intensity conflict
LOGMARS
Logistics Applications of Automated Marking and Reading Symbols
LUPS
Logistics Unit Productivity Systems

MANPRINT
Manpower and Personnel Integration
MCB
Managing the Civilian Work Force to Budget
MCM
militarized computer module
MEET
minimum essential equipment for training
MF2K
Medical Force 2000
MITLA
microcircuit technology in logistics applications
MKT
Mobile Kitchen Trailer
MHEMP
Material Handling Equipment Modernization Plan
MLRS
Multiple Launch Rocket System
MOS
military occupational specialty
MOSQ
military occupational specialty qualification
MQS
military qualification standard
MTM/D
million ton miles per day
MWR
morale, welfare, and recreation

NAF
nonappropriated fund
NATO
North Atlantic Treaty Organization
NCO
noncommissioned officer

NCOES
Noncommissioned Officer Education System
NTC
National Training Center
NTV
nontactical vehicles

ODT
overseas deployment training
OPTEMPO
operating tempo

PLDC
Primary Leadership Development Course
POM
Program Objective Memorandum
POMCUS
Pre-positioning of Materiel Configured to Unit Sets
PRIMUS
Primary Care of the Uniformed Services
PSYOP
psychological operations

RAOC
Rear Area Operations Centers
RC
Reserve Components
RCAS
Reserve Component Automation System
RC-OES
Reserve Components Officer Education System
RC TDAP
Reserve Component Training Development Action Plan
READY 2000
Revitalization of Army Depots for the Year 2000
REP
REFORGER Enhancement Program
RIF
reduction-in-force
ROPMA
Reserve Officer Personnel Management Act
RPMA
real property maintenance activities
RSTA
reconnaissance, surveillance, and target acquisition
RTS-MAINT
Regional Training Site - Maintenance
RTS-MED
Regional Training Site - Medical

SAFER
Security and Force Protection Enhancement Resources
SDI
strategic defense initiative
SDS
strategic defense system
SF
special forces
SIDPERS-3
Standard Installation Division Personnel System
SMP
Soldier Support Modernization Plan
SOA
special operations aircraft
SOF
special operations forces
SORD
Soldier Oriented Research and Development

TACCS
Tactical Army Combat Service Support Computer System
TBIS
Technology Base Investment Strategy
TC ACCIS
Transportation Coordinator Automated Command and Control Information System
TDSS
training devices, simulators, and simulations
TEMA
Test and Evaluation Management Agency
TOA
total obligation authority
TOW
tube-launched, optically tracked, wire command-linked guided (anti-tank missile)
TQM
Total Quality Management
TRADOC
Training and Doctrine Command
TWVMP
Tactical Wheeled Vehicle Modernization Plan

USAR
U.S. Army Reserve
USAREUR
U.S. Army Europe
USASDC
U.S. Army Strategic Defense Command

WHNS
Wartime Host Nation Support
WOMA
Warrant Officer Management Act

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ARMY STRATEGIC ROLES

Provide forward-deployed ground forces for deterrence, sustained land combat, and conflict termination in areas of vital interest

Maintain combat-ready ground forces -- heavy, light, and special operations -- in CONUS for immediate contingencies worldwide

Maintain forces in CONUS able to reinforce forward-deployed and contingency forces

Participate in disaster relief, emergency assistance, and interdiction of illicit drug traffic

Provide peacetime support to allied and friendly nations through peacekeeping, security assistance, and Army-to-Army initiatives

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